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CONSTRUCTION DETAIL NUMBER

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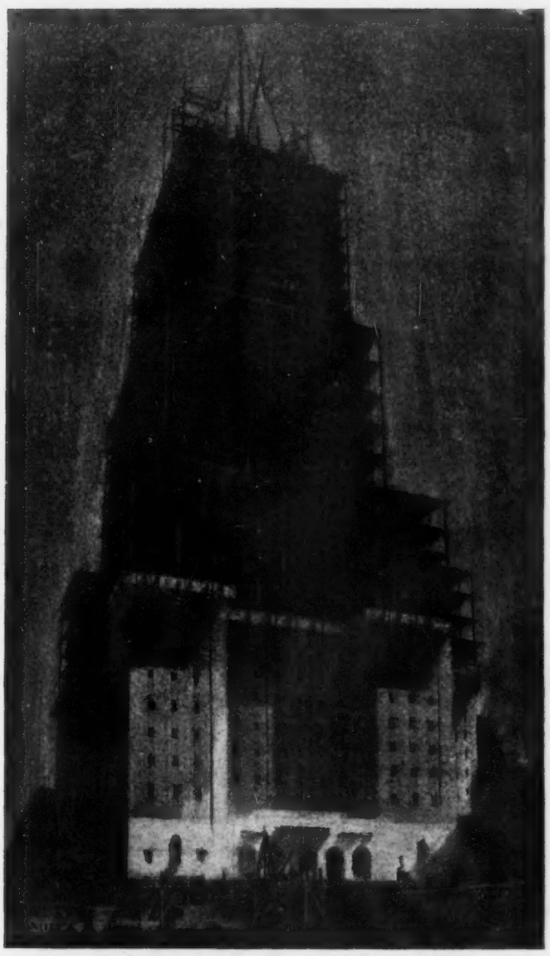
A Journal for the Drafting Room



Rendering by Hugh Ferriss, The Shelton
Arthur Loomis Harmon, Architect, New York City

OCTOBER 1923

VOL. IV
TWO DOLLARS
A YEAR

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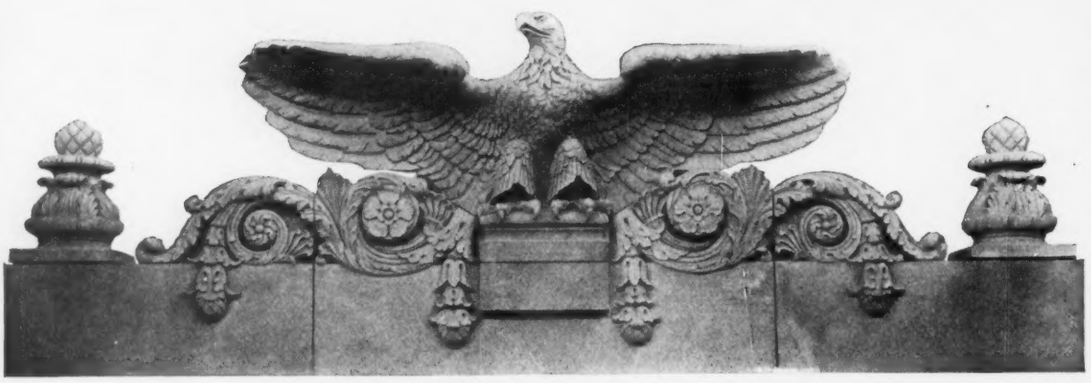
In This Issue:—Drawing Construction Details by Philip G. Knobloch; Thirty-two Pages of Details, by Architects in All Parts of the Country; Specification Desk; News. Plates:—The Acropolis at Athens, by Frederick Boissonnas; Church of St. Merri, by John Vincent; St. Etienne du Mont, by Charles Meryon; Liberty's Cloak, by Muirhead Bone



Carved Eagle over entrance to London Guarantee and Accident Building, Chicago, Alfred S. Alschuler, Architect

Vigor and Power Expressed in Stone

Indiana Limestone is a singularly suitable medium for sculptural treatment. It has no limitations. It is exceptionally fine-grained and may be worked with the utmost ease. At the same time it has the peculiar quality of hardening under exposure to the air and holds arrises *permanently.*

Above is illustrated carved eagle which forms central entrance feature of the new London Guarantee and Accident Company building, Chicago. It is 14 feet tip to tip of wings and is carved from a single block of Indiana Limestone

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PENCIL POINTS

VOLUME IV OCTOBER 1923 NUMBER 10

HOW THEY BUILD

THERE are several angles from which the collection of drawings of construction details published in this issue may well be viewed.

In the first place these drawings contain a great deal of interesting material, for they show how a number of architects in various parts of the country have solved construction problems. Some of these problems are special, while others are met with quite frequently in every day practice. In this mass of material, it is safe to say, everyone can find some helpful suggestions.

The range of subject matter is wide, including details of a built-in dressing table in a boudoir in New York, the ventilator of a hay loft in Minnesota, details of office buildings in Chicago, of a church house in Pittsburgh, details of wooden window sash and trim from Des Moines, Iowa, a number of varied details from San Francisco and Los Angeles, elevator enclosures, stairway details, a bit of the construction of the Standard Oil Building in New York, batten doors in a residence, and a very interesting detail from the drawings for the Lincoln Memorial, Washington, D. C.

The aim in assembling these details has been to show the solution of a great variety of construction problems and so far as possible to select the unusual, but at the same time useful ones.

Though some architects responded to our request that they send in sheets drawn to the right size and in a way suitable for reproduction in our pages, many were not able to undertake the preparation of the material in that manner at this time, but gave us access to their files of working drawings. In these cases we have reproduced the entire sheet when possible without reducing the drawing so much as to make the reproduction illegible, and in many instances we have chosen portions of drawings. Though separated from the other drawings of the set and often fragmentary, these details will, we believe, prove entirely intelligible to our readers.

In some cases we have chosen details that are not as carefully drawn as other less interesting ones in the files of the same office.

Taking drawings from so many offices, drawings different in size and manner of drawing, it has been impossible to secure any approach to uniformity of appearance in the pages devoted to this material. Some drawings were, of necessity, reproduced in half-tone, others could be made in line, so they have been brought together in the way that seemed to cause the least clash of facing pages and without any thought of precedence or of relative importance in their arrangement.

The emphasis placed on construction details in this issue is the outcome of a strong feeling that this side of drafting room work should have due recognition, and it is our intention to include a few pages of construction details in each regular issue of this journal from this time on. In the past we have published them only intermittently. The purpose is to bring about an interchange of ideas on this subject through the publication of these drawings. The practice of architecture, like the practice of every other profession, progresses through the logical solution of new problems as they arise and through the finding of better solutions of the old problems—these methods becoming contributions to the profession. It is clear that this development can be facilitated through such a medium for the exchange of ideas as the publication of construction details regularly in the pages of this journal. Through the splendid co-operation of those who have loaned drawings for this issue, we have been able to start the ball rolling—now let's keep it going. Send us blue prints of some of your construction details. The bigger the response the better we can make this feature, so let us have your co-operation.

THE DRAFTING ROOM REGISTRY

THE establishment of this Registry, as announced last month, has elicited much favorable comment and a most gratifying response. Draftsmen, specification writers, superintendents of construction employed by architects, contractors, engineers and others throughout the country are sending for registry cards, filling them out and returning them in a steady stream. It is recognized both by architects and by the drafting room personnel that this Bureau, when our records are complete, will be extremely valuable to all concerned.

All those who have not as yet availed themselves of the opportunity to register are requested to send for cards. Remember there is no expense to anyone in connection with this Registry and that all those who are eligible and not subscribers for PENCIL POINTS may register as well as those whose names appear on our subscription list. We want our list to be complete and therefore bespeak the co-operation of all elements of the profession. For full particulars see page 122 of this issue.

DRAWING CONSTRUCTION DETAILS

BY PHILIP G. KNOBLOCH

In this article Mr. Knobloch, the author of "Good Practice in Construction," points out some of the more important considerations in the making of drawings showing details of construction and offers some suggestions based on his experience in the preparation of drawings of this kind.—ED.

BEFORE undertaking the preparation of construction details it is well, I believe, to go thoroughly over the 1/8 inch or 1/4 inch drawings to determine just what details will be required. Then in making each detail one should first think carefully, taking into account all the conditions to be met in each particular case, making a few pencil sketches at 3 inch scale showing the relation of the parts one to another.

A great deal of help in thinking out a detail may often be obtained by having before one a detail covering a somewhat similar case—a drawing from the office files showing a building previously designed, an office standard detail, or one of the various books containing construction details. While it is not often that a detail may be taken exactly as it is found in any of these drawings, such a drawing provides a good starting point, for it reminds one of many essentials and contains information that one does not always carry in one's mind.

Philip G. Knobloch

In working out a detail it is important to aim at simplicity, to call for construction that will meet all the requirements satisfactorily without any unnecessary expense for material or labor. It often takes more thought to work out such a detail, and requires more knowledge, than to draw a complicated, unnecessarily expensive detail.

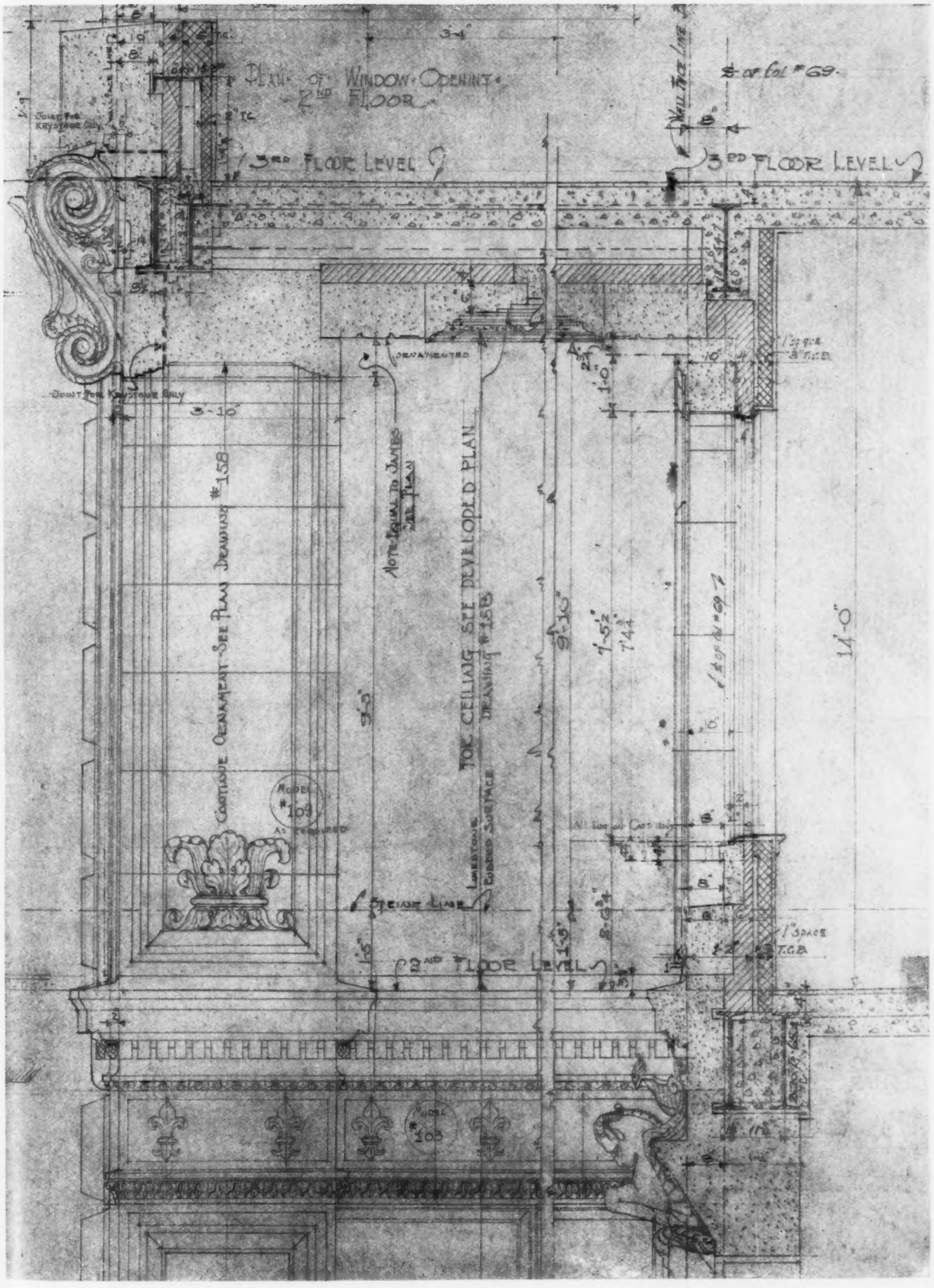
Since a good knowledge of construction is necessary in drawing details, the draftsman who has spent much time on buildings under construction has a great advantage. A year or more on buildings as inspector or assistant superintendent would prove an invaluable experience. I believe that it would be well if it were the regular practice in all offices to send draftsmen to the jobs so that they might see the work under actual construction.

It is seldom that draftsmen see the details built and installed from the drawings made in the office. Nothing would, I believe, tend so strongly to improve the standard of construction details throughout the profession from a practical standpoint so much as providing opportunities for draftsmen to be on the buildings.

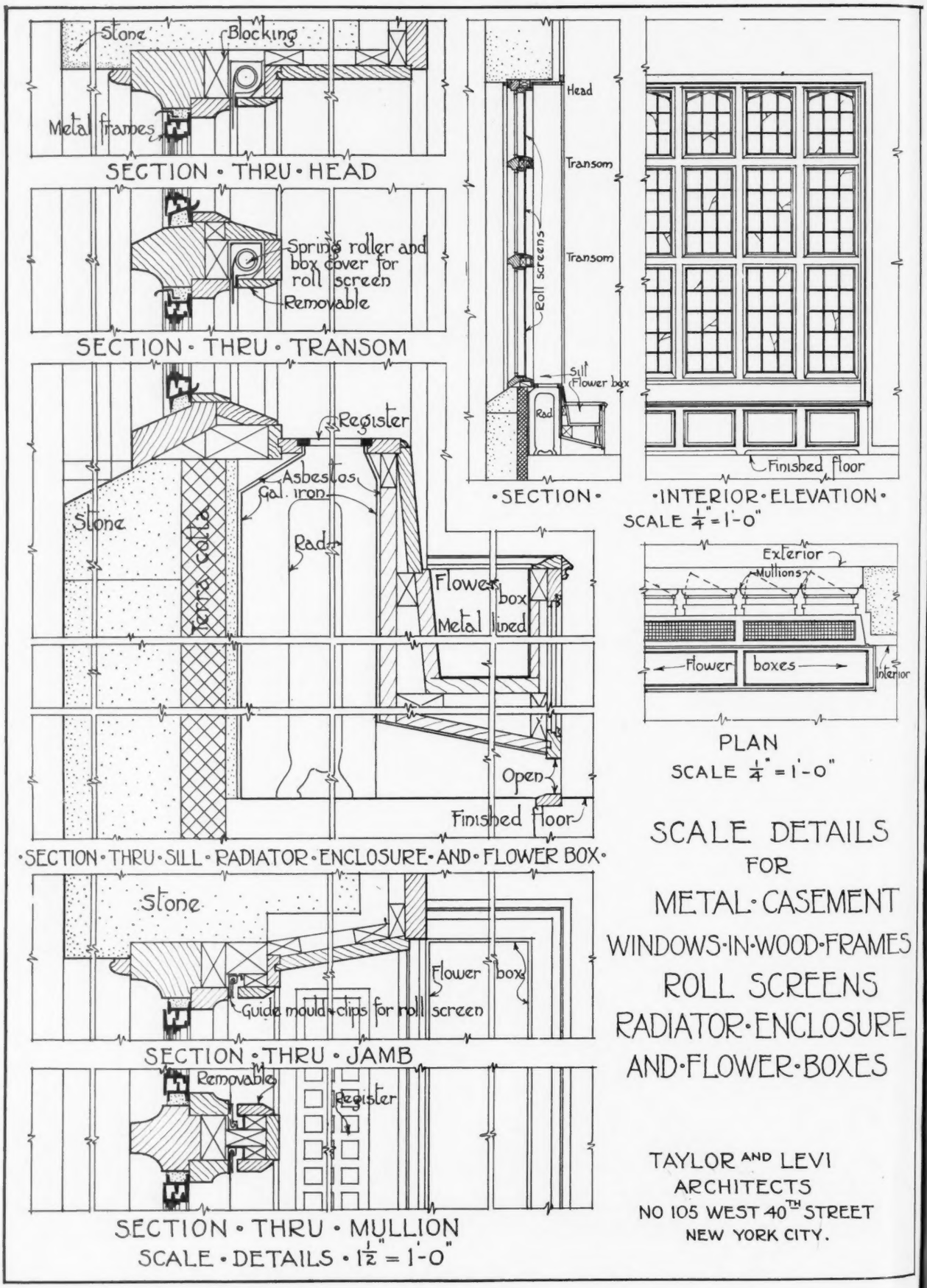
At this point I may say that the man who wishes to draw good construction details will do well to learn as much as possible from the men who have devoted much time to some one branch of construction or to some one class of building materials or class of equipment. Contractors, material men, mill men, men in the service departments of producers of building materials or equipment all have a great deal of value to contribute to one's knowledge of construction. In addition to gaining knowledge through contact with these men, it is well to call upon them frequently for needed information during the drawing of construction details. One should always exercise one's own judgment freely, however, in making use of information and advice from any source. It is worth while for the man who draws construction details to know the sizes of materials that are kept in stock, drawings that show such knowledge, besides being more useful, command the respect of the mill man.

It may be well to say a word here about presentation. Though a drawing of details of construction is not a proper place to attempt elaboration for the sake of appearance, such a drawing should bear the marks of good draftsmanship and can be given a very pleasing appearance without any undue expenditure of time. Perhaps the one thing that contributes most to this end, while making the drawing more easily understood, is the practice of using a comparatively heavy line as a profile around each main portion of the construction, using lighter lines

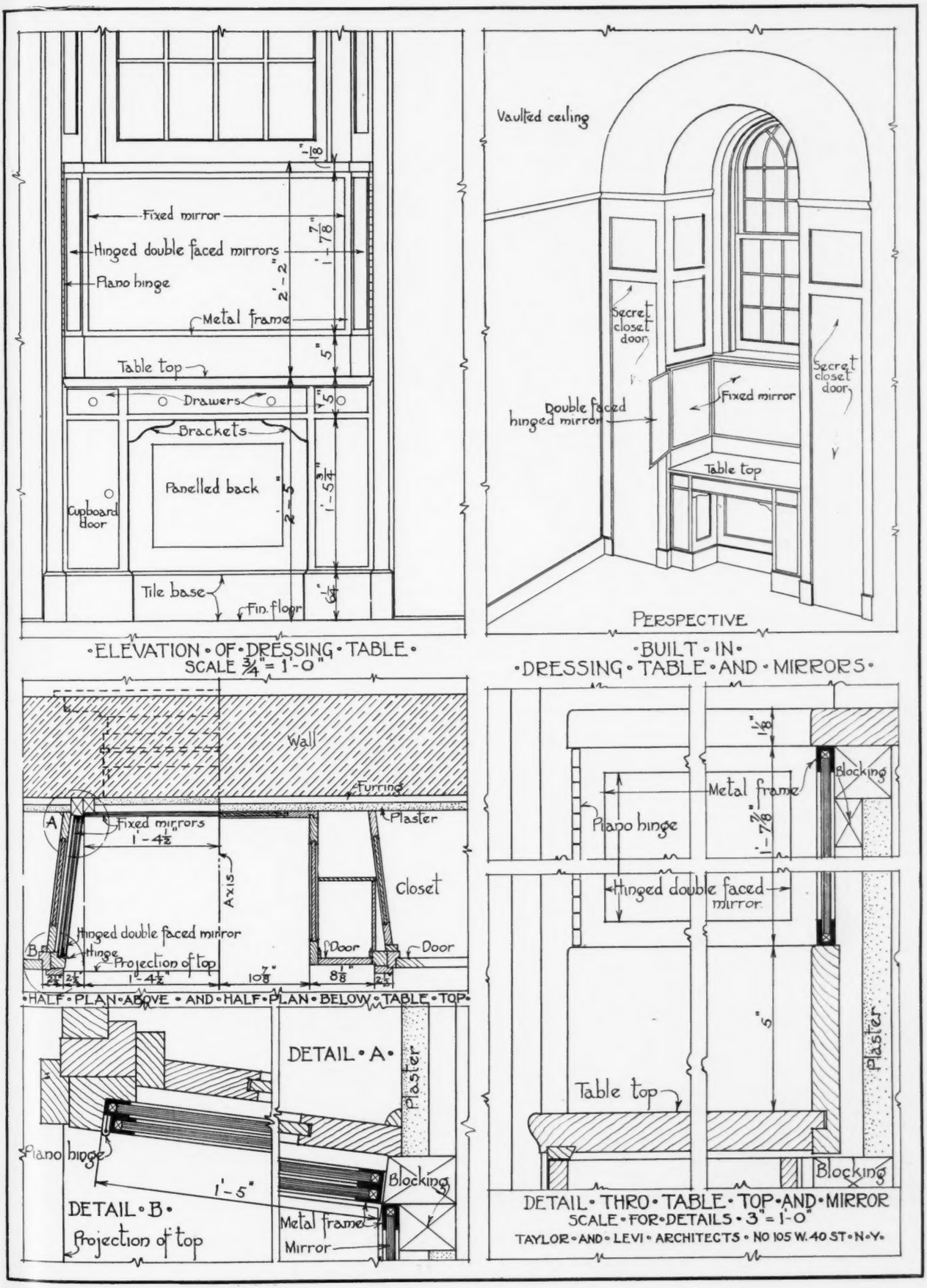
(*Continued on page 79*)



Details of Construction—Standard Oil Building. Carrère & Hastings, Architects. Shreve, Lamb & Blake, Associated.

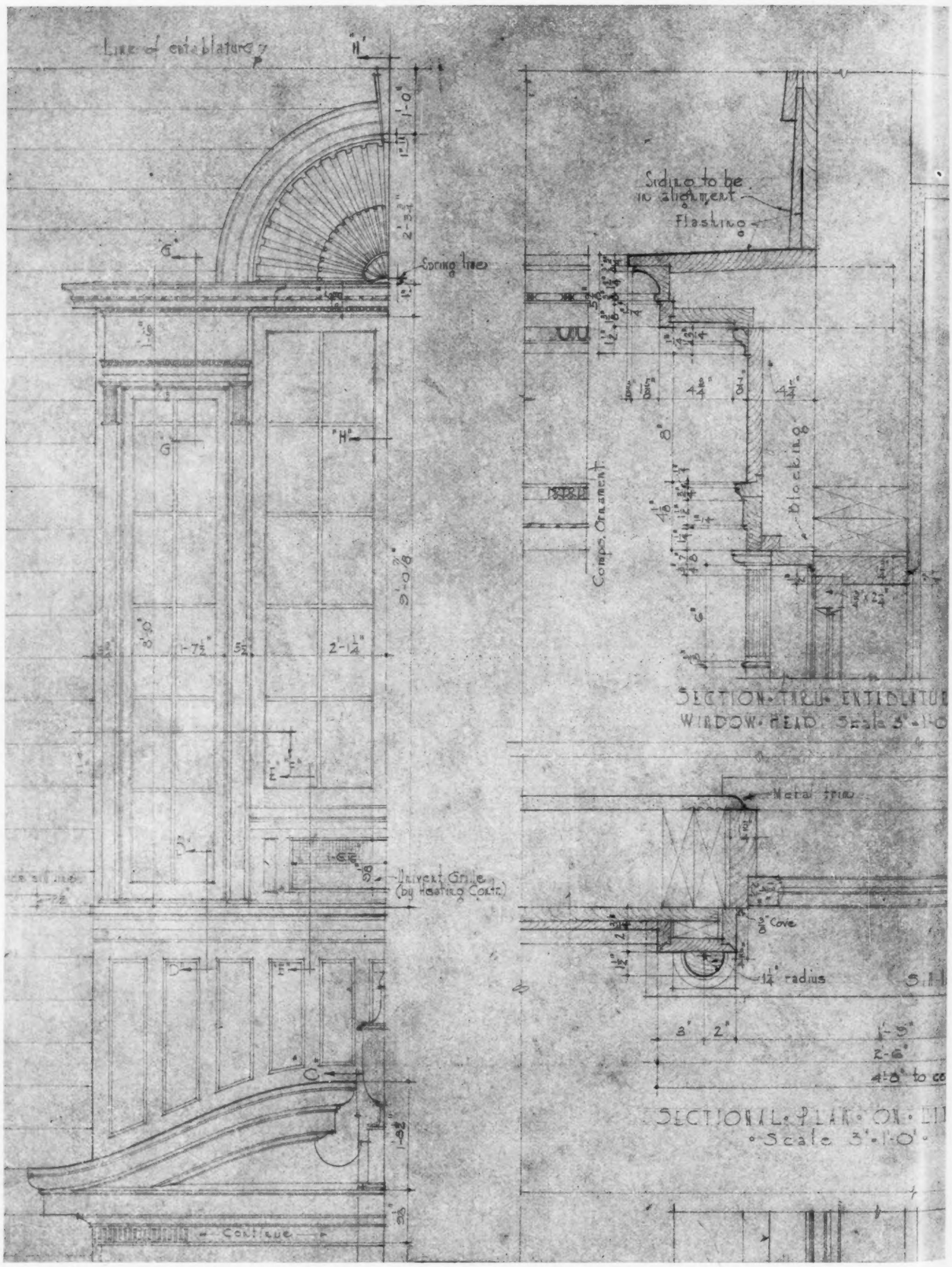


Details of Construction—Metal Casement Windows in Wood Frames, Roll Screens, Radiator Enclosure and Flower Boxes. Taylor & Levi, Architects, New York.



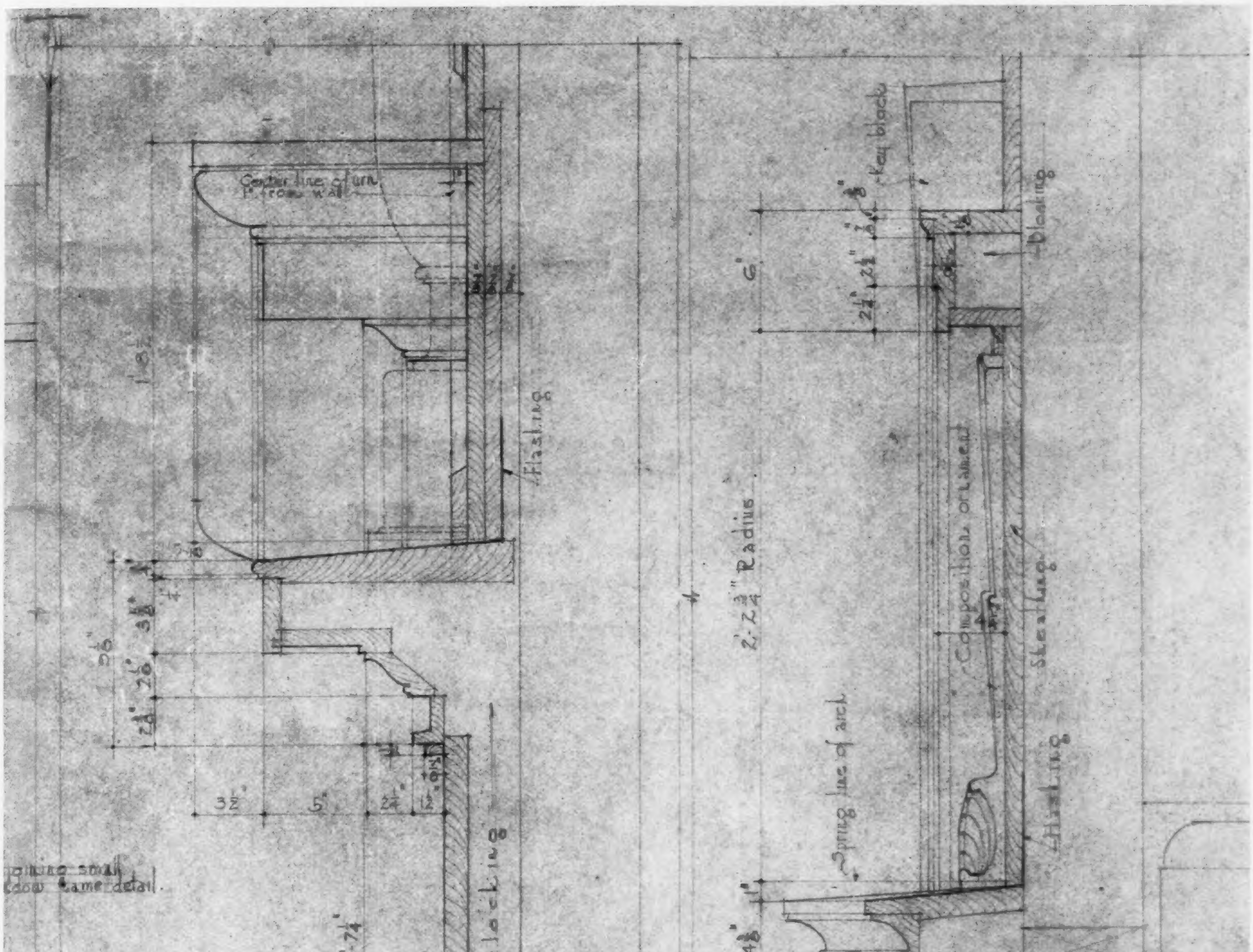
Details of Construction—Built-in Dressing Table and Mirrors. Taylor & Levi, Architects, New York.

Details of Construction—Metal Casement Windows in Wood Frames, Roll Screens, Radiator Enclosure and Flower Boxes. Taylor & Levi, Architects, New York.

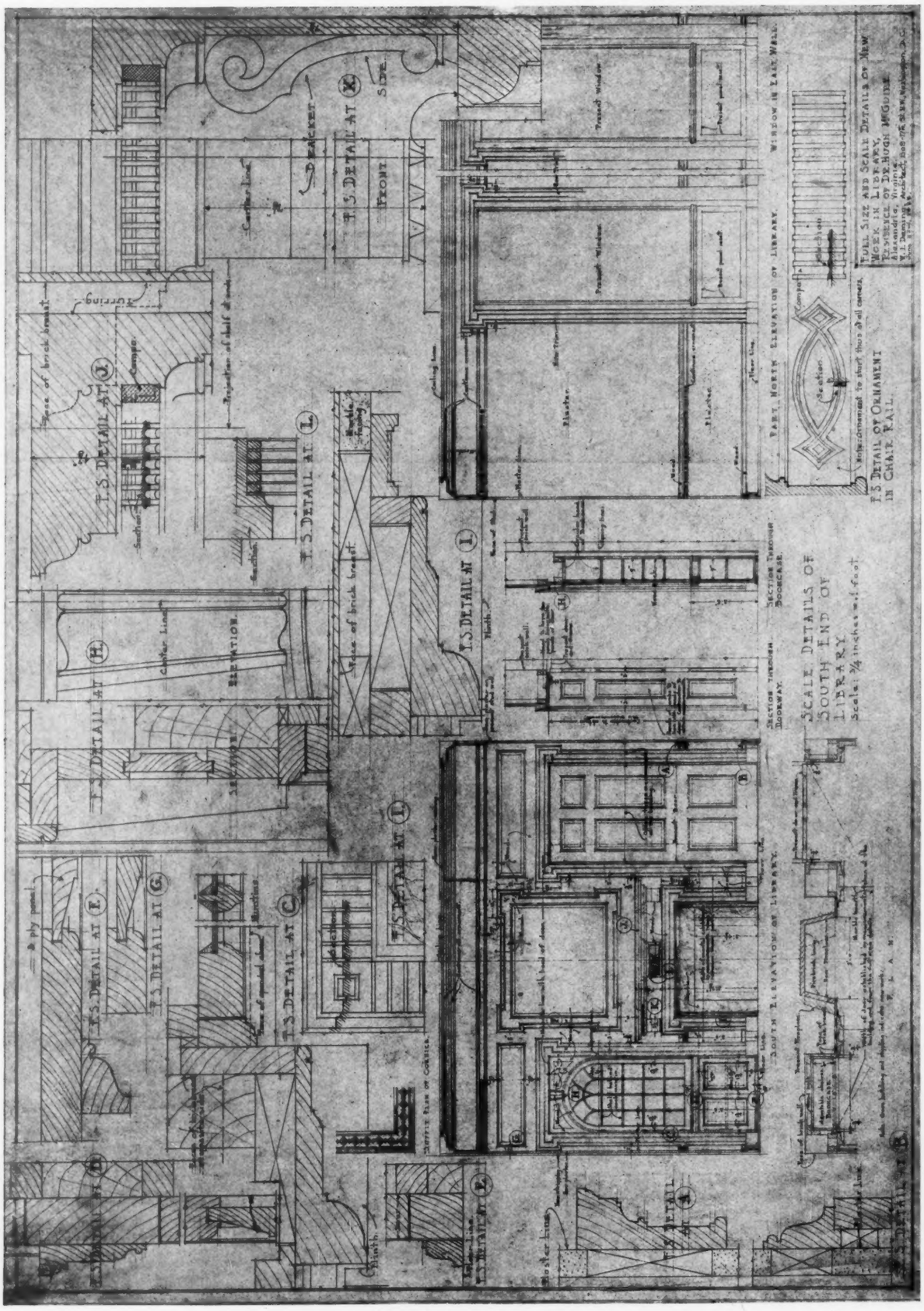


Details of Construction—Palladian Window. The Gilberton High School. Peter B. Sheridan, Architect, Hazleton, Pa.

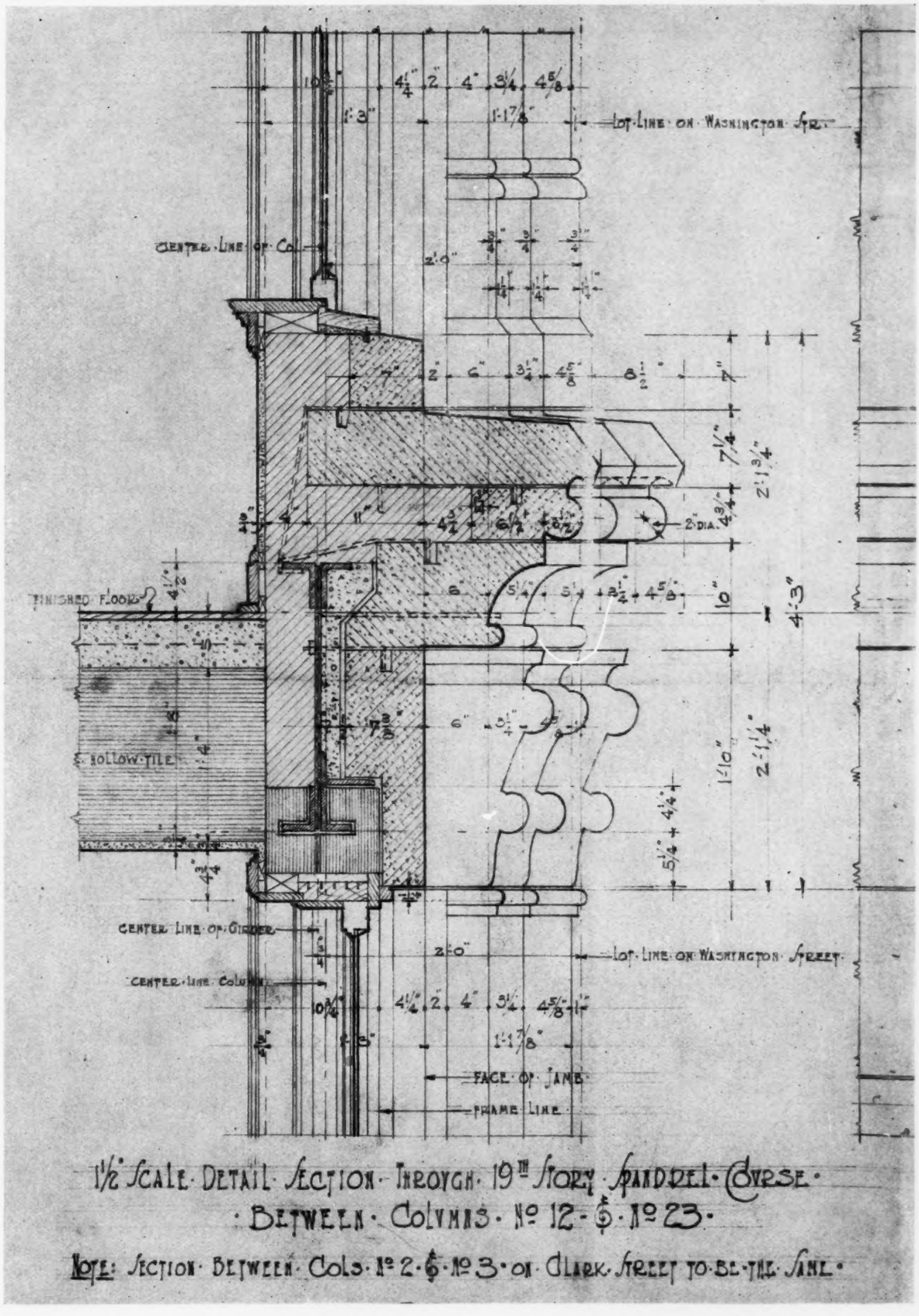
Details of Construction—Built-in Dressing Table and Mirrors. Taylor & Levi, Architects, New York.



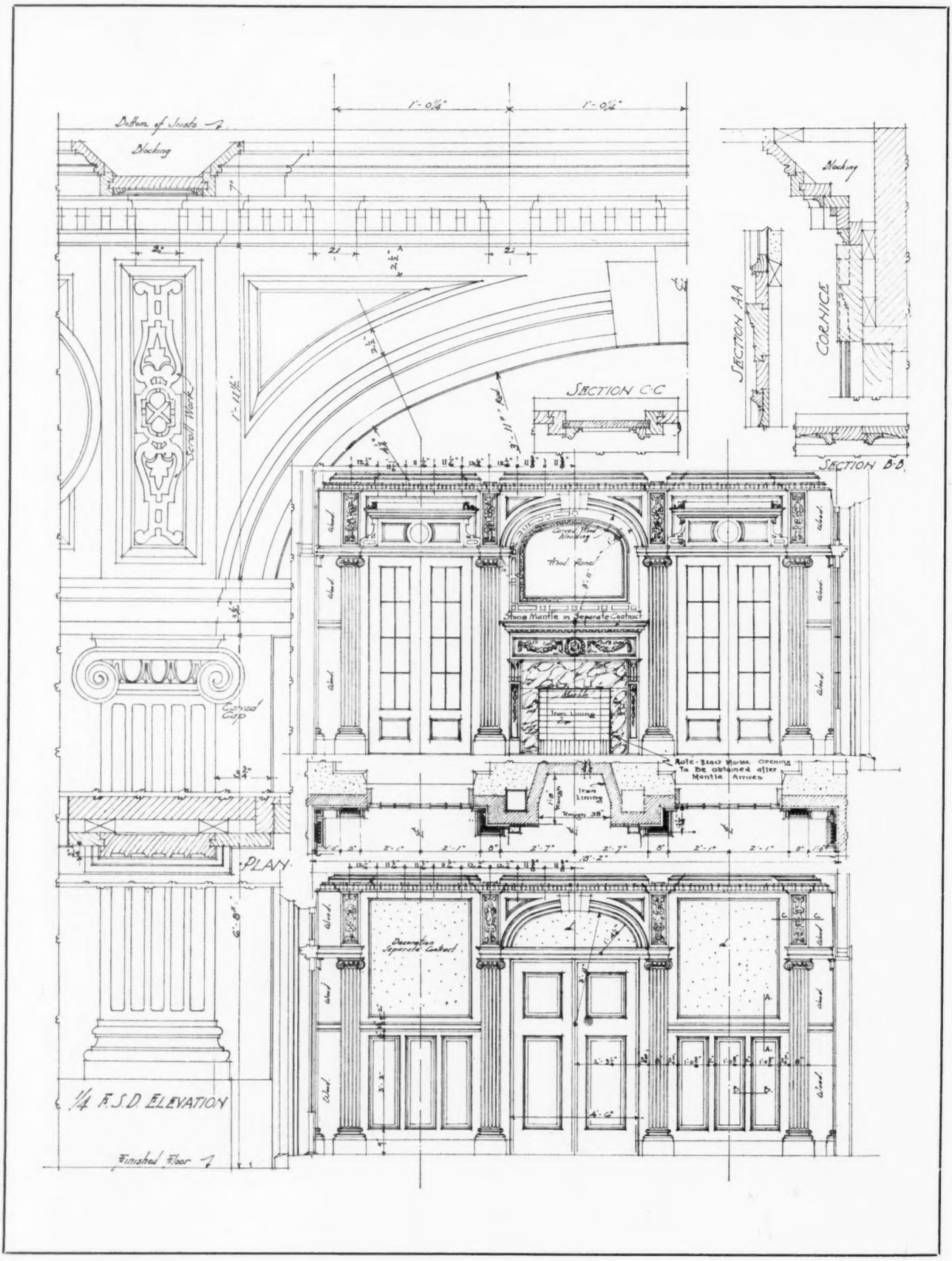
Details of Construction—Palladian Window, The Gilberton High School.
Peter B. Sheridan, Architect, Hazleton, Pa.



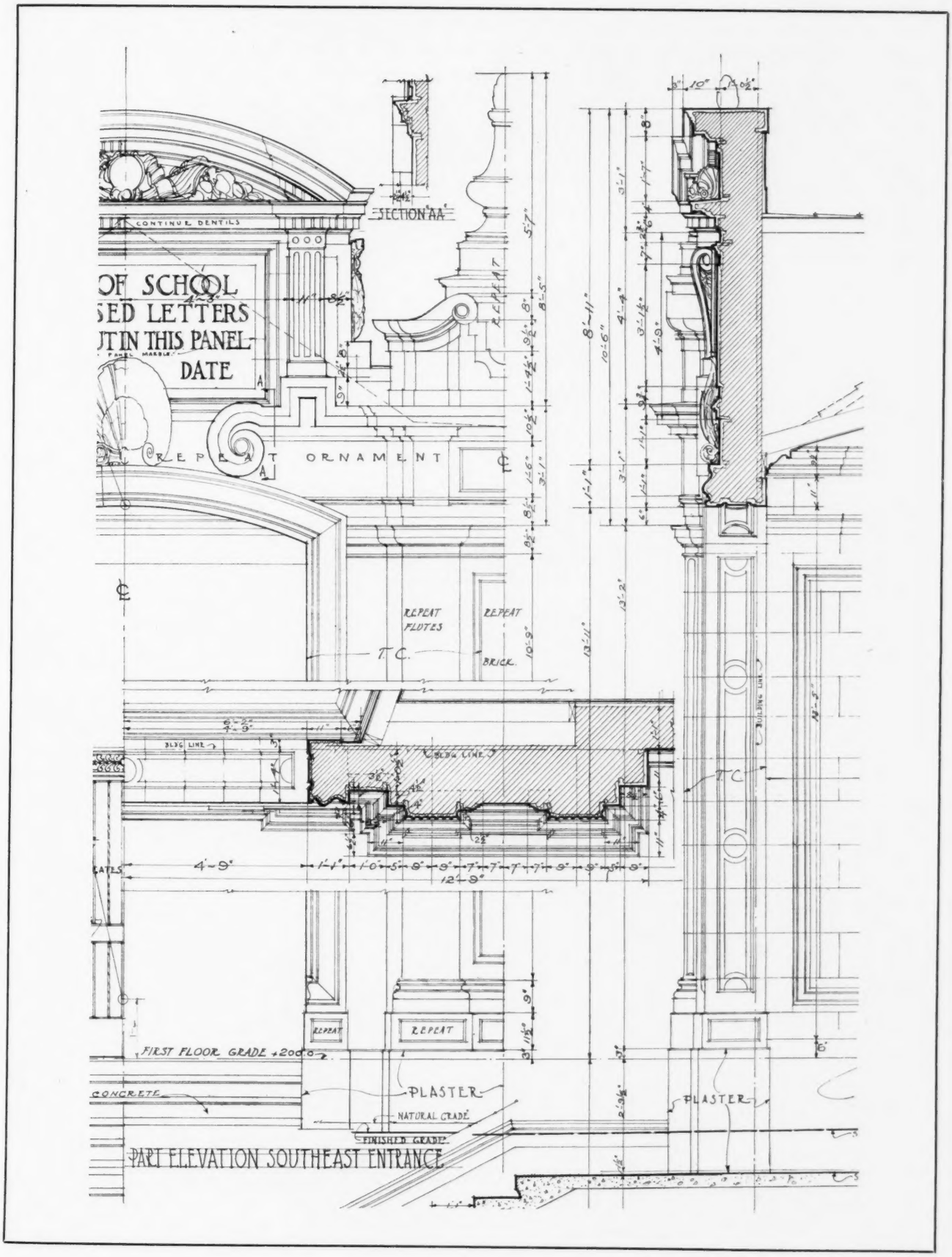
Details of Construction—Library, Residence of Dr. Hugh McGuire. W. I. Deming, Architect, Washington, D. C.


LOT LINE ON WASHINGTON ST.
CENTER LINE OF COL.
FINISHED FLOOR
HOLLOW TILE
CENTER LINE OF GIRDER
CENTER LINE COLUMN
LOT LINE ON WASHINGTON STREET
FACE OF JAMB
FRAME LINE
1½" SCALE DETAIL SECTION THROUGH 19TH STORY SPANDREL COURSE
BETWEEN COLUMNS Nº 12 & Nº 23
NOTE: SECTION BETWEEN COLS Nº 2 & Nº 3 ON CLARK STREET TO BE THE SAME

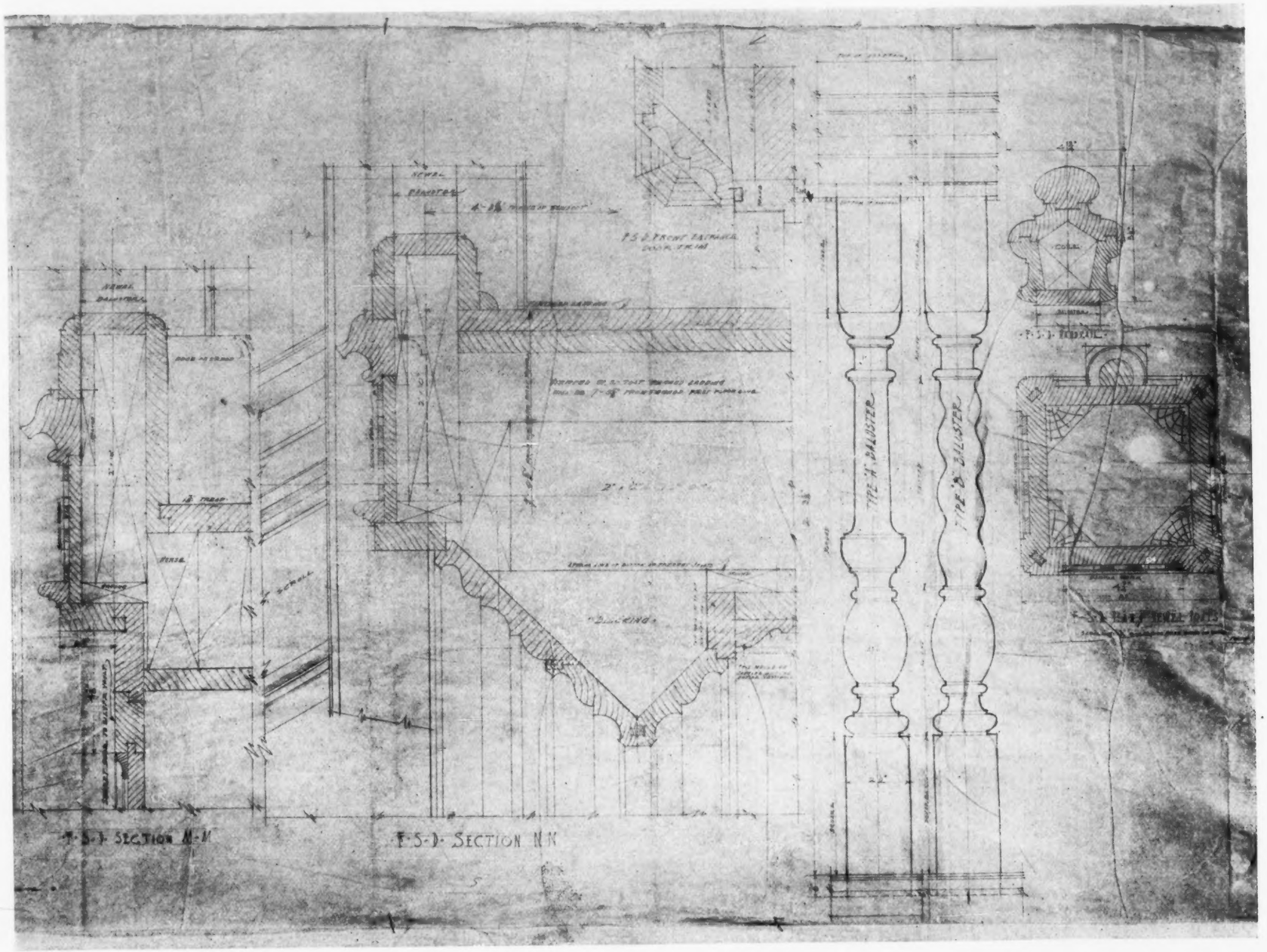
Details of Construction—Section Through Spandrel Course, Chicago Temple Building. Holabird & Roche, Architects, Chicago.



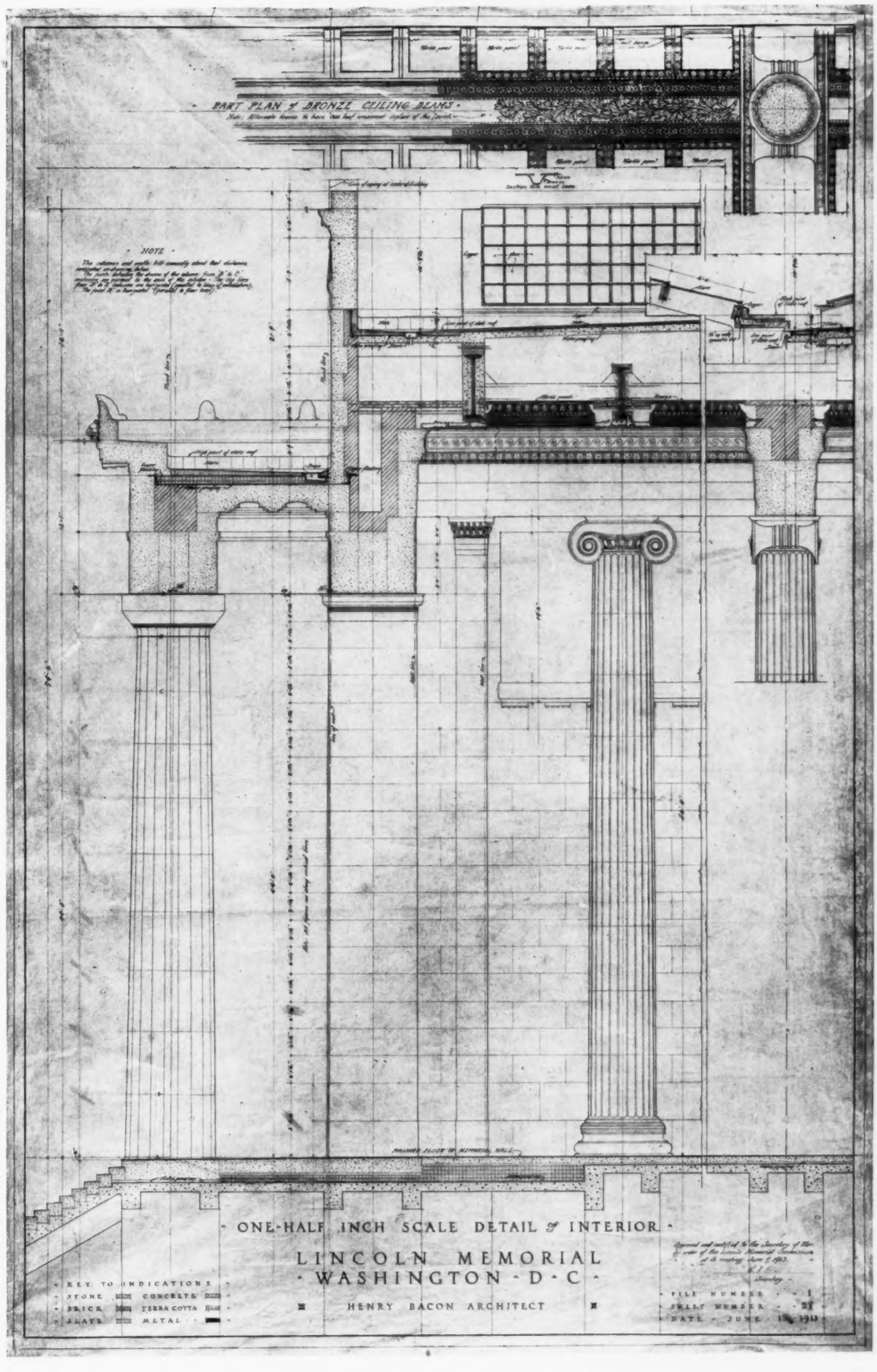
Details of Construction—Details of Living Room. Residence for J. L. Kendall, Esq. M. Nirdlinger, Architect, Pittsburgh, Pa.



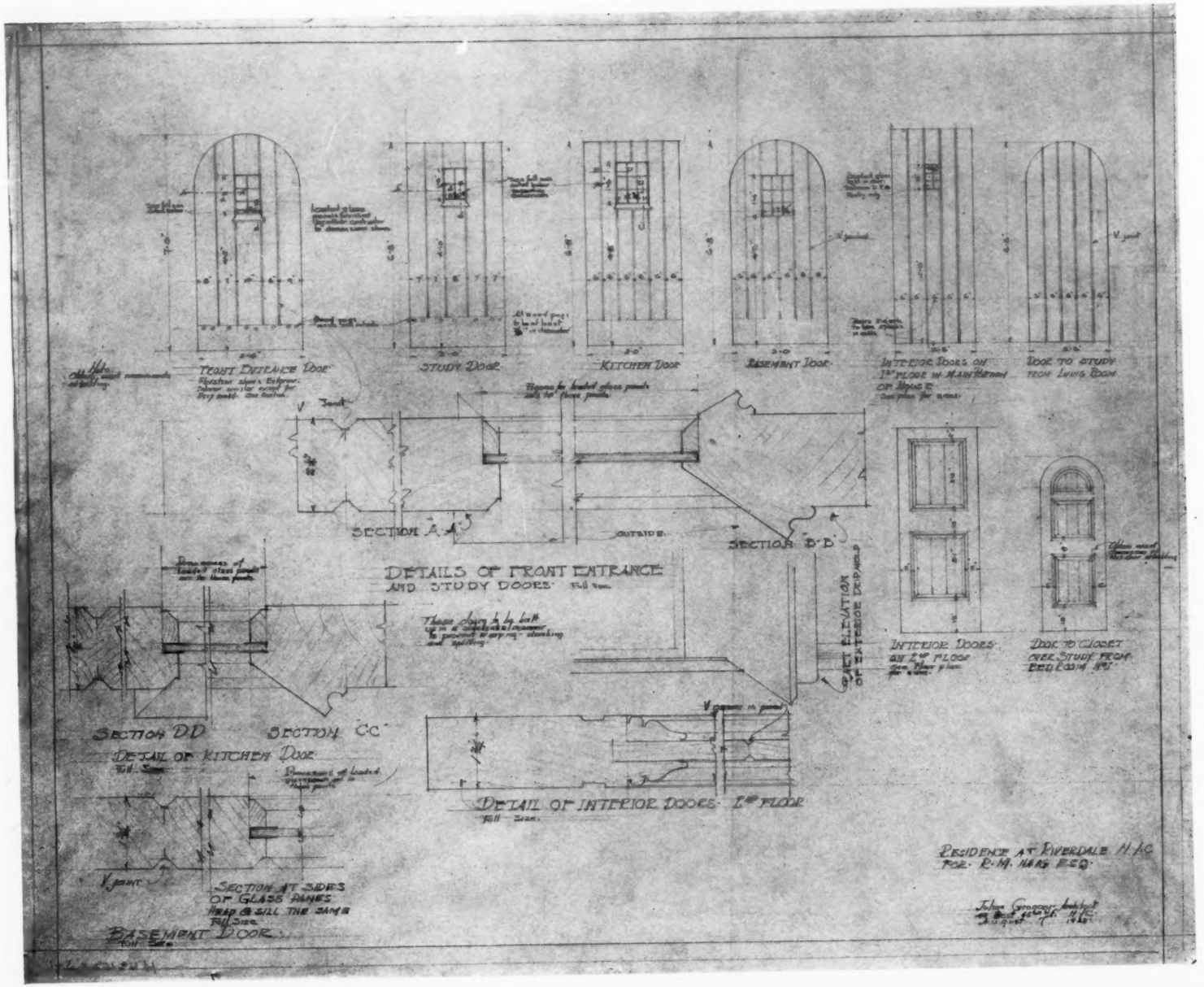
Details of Construction—New Garfield Intermediate School, Berkeley, Cal.
Wm. C. Hayes, Architect, San Francisco, Cal.



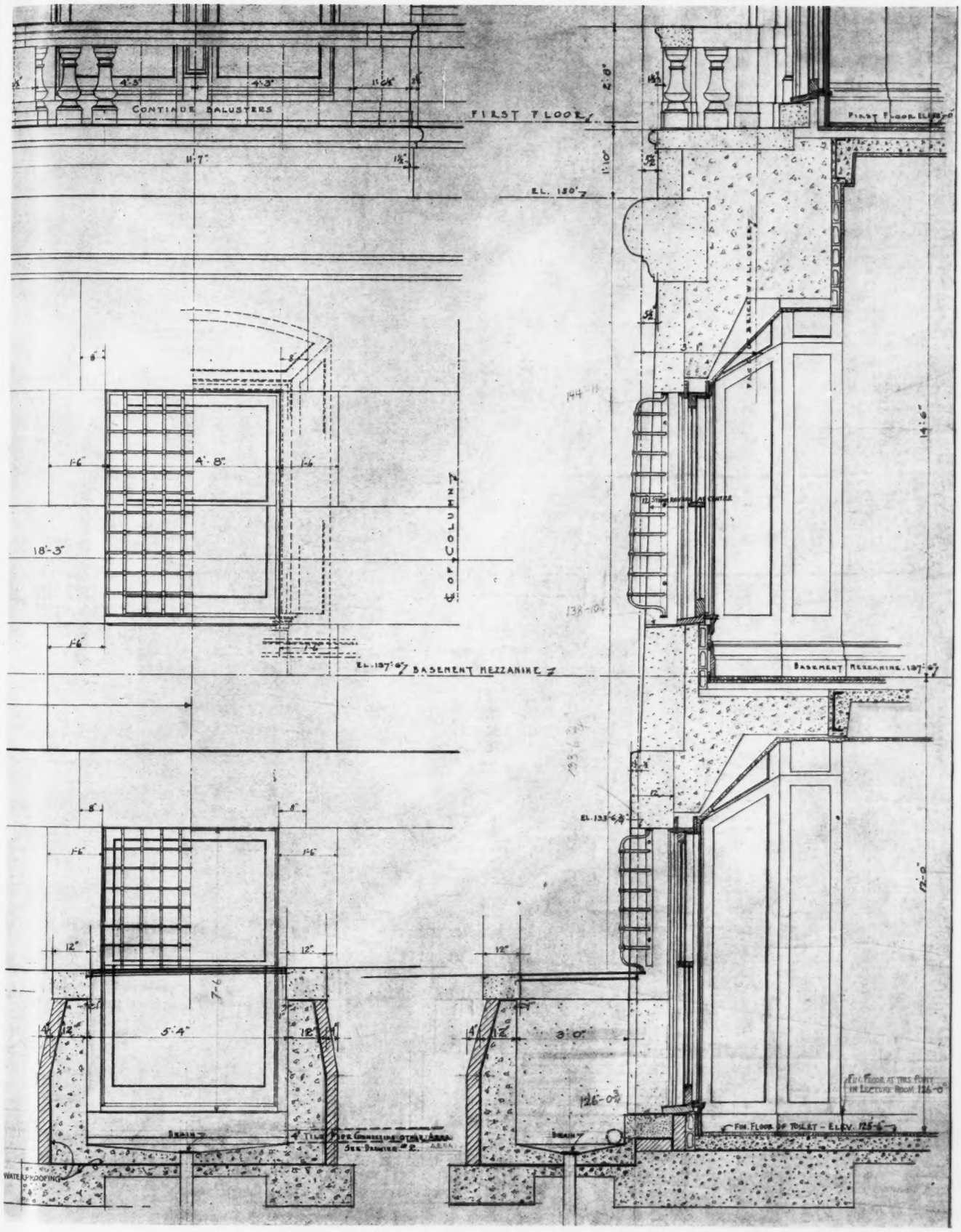
Details of Construction—Stairway Landing, Newel Posts, etc. Residence for J. L. Kendall, Esq. M. Nirdlinger Architect, Pittsburgh, Pa.



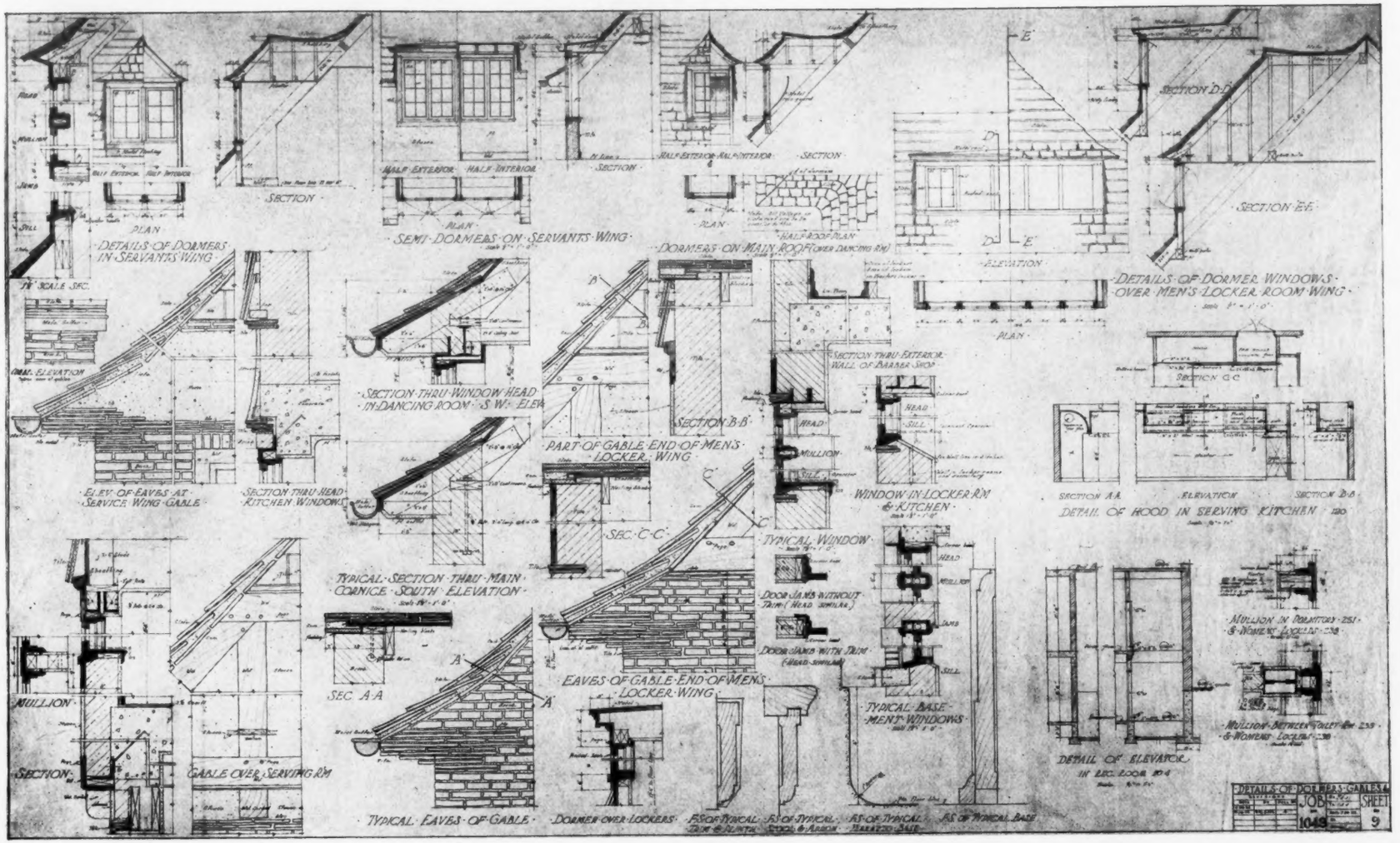
Details of Construction—Lincoln Memorial, Washington, D. C.
Henry Bacon, Architect, New York.


FRONT ENTRANCE DOOR
STUDY DOOR
KITCHEN DOOR
BASEMENT DOOR
INTERIOR DOORS ON 1ST FLOOR IN MAIN PART OF HOUSE
DOOR TO STUDY FROM LIVING ROOM
SECTION A-A
SECTION B-B
DETAILS OF FRONT ENTRANCE AND STUDY DOORS
SECTION DD
SECTION CC
DETAIL OF KITCHEN DOOR
SECTION AT SIDES OF GLASS PANES HEAD & SILL THE SAME
BASEMENT DOOR
DETAIL OF INTERIOR DOORS 1ST FLOOR
INTERIOR DOORS ON 2ND FLOOR
DOOR TO CLOSET OVER STUDY FROM BEDROOM
RESIDENCE AT RIVERDALE N.Y.
FOR R. H. HAIG ESQ.

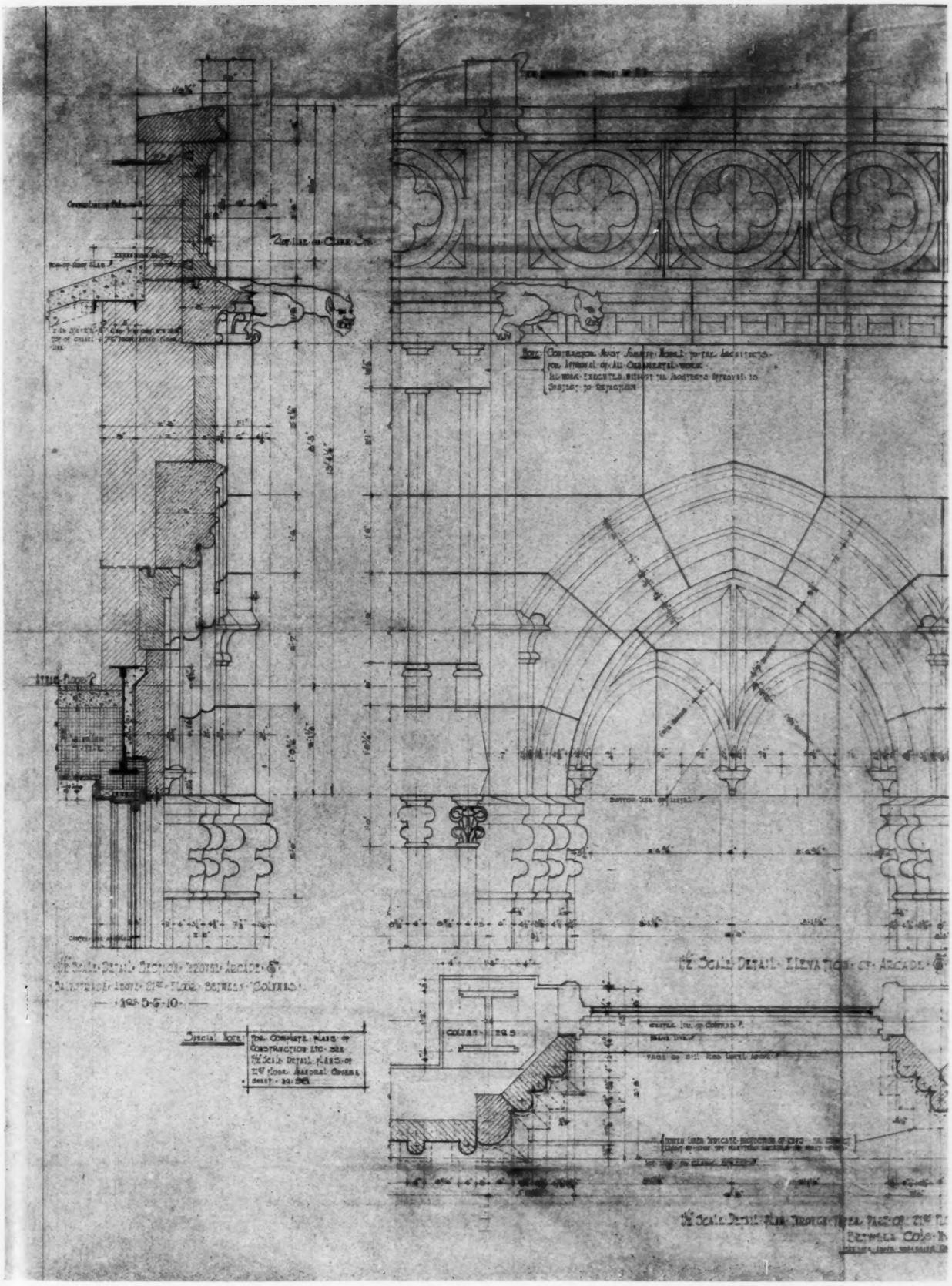
Details of Construction—Doors in Residence for R. H. Haig, Esq. Julius Gregory, Architect, New York.



Details of Construction—Business Building, Columbia University.
McKim, Mead & White, Architects, New York City.

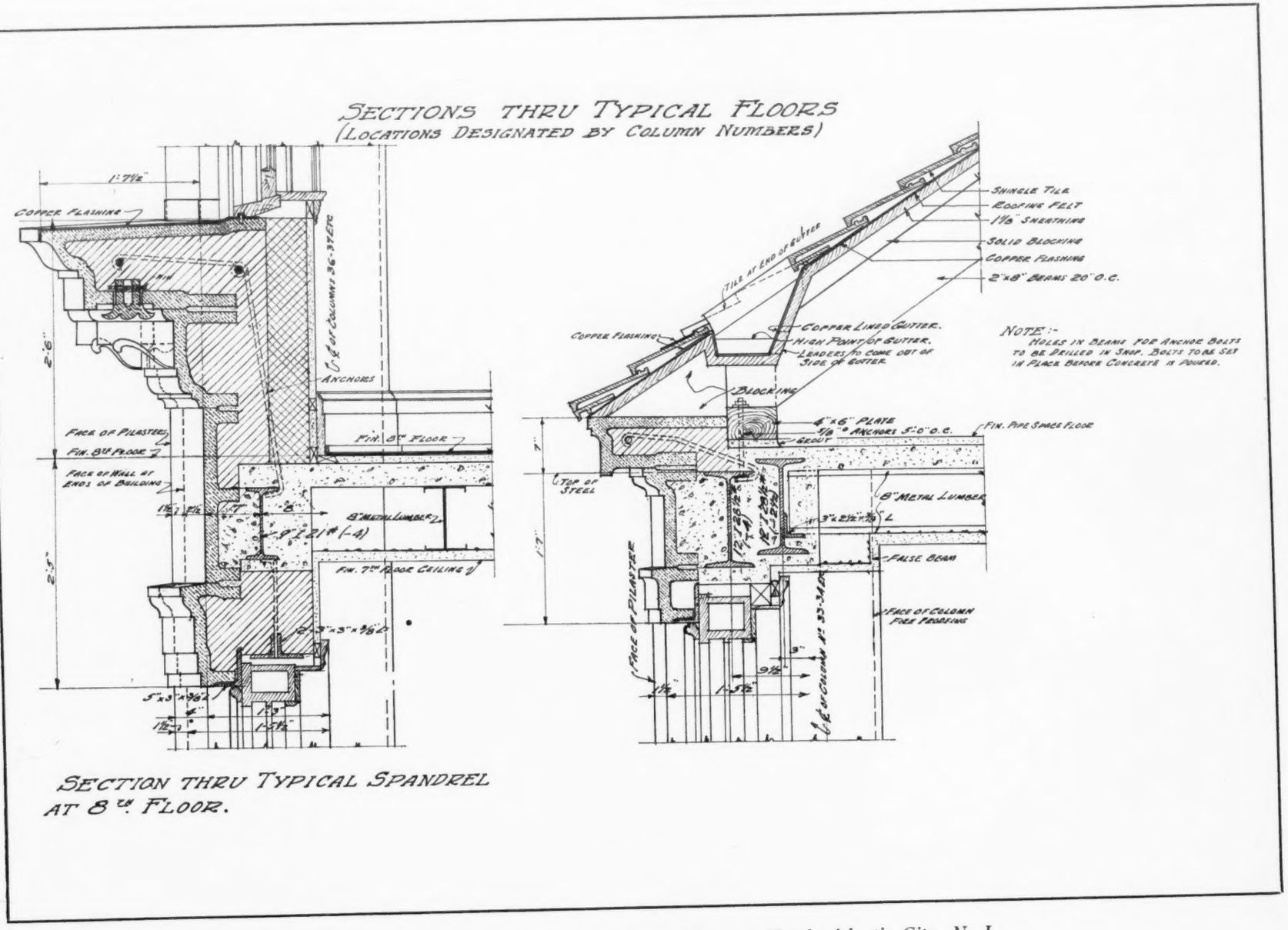

DETAILS OF DORMERS IN SERVANTS WING
SEMI-DORMERS ON SERVANTS WING
DORMERS ON MAIN ROOF (OVER DANCING RM)
DETAILS OF DORMER WINDOWS OVER MEN'S LOCKER ROOM WING
SECTION THRU WINDOW HEAD IN DANCING ROOM
PART OF GABLE END OF MEN'S LOCKER WING
SECTION THRU EXTERIOR WALL OF BARBER SHOP
WINDOW IN LOCKER RM & KITCHEN
DETAIL OF HOOD IN SERVING KITCHEN
ELEV OF EAVES AT SERVICE WING GABLE
SECTION THRU HEAD KITCHEN WINDOW
TYPICAL SECTION THRU MAIN CORNICE SOUTH ELEVATION
SEC C-C
TYPICAL WINDOW
DOOR JAMBS WITHOUT TRIM (HEAD SIMILAR)
DOOR JAMBS WITH TRIM (HEAD SIMILAR)
SEC A-A
EAVES OF GABLE END OF MENS LOCKER WING
TYPICAL BASEMENT WINDOWS
MULLION
SECTION
GABLE OVER SERVING RM
TYPICAL EAVES OF GABLE
DORMER OVER LOCKERS
DETAIL OF ELEVATOR IN REC ROOM 104
MULLION IN PORTICO 251 & WOMENS LOCKER 238
MULLION BETWEEN TOILET RM 239 & WOMENS LOCKER 238
DETAILS OF DORMERS GABLES &
JOB 1049
SHEET 9

Details of Construction—Dormers, Gables, etc. *Albert Kahn, Architect, Detroit, Mich.*



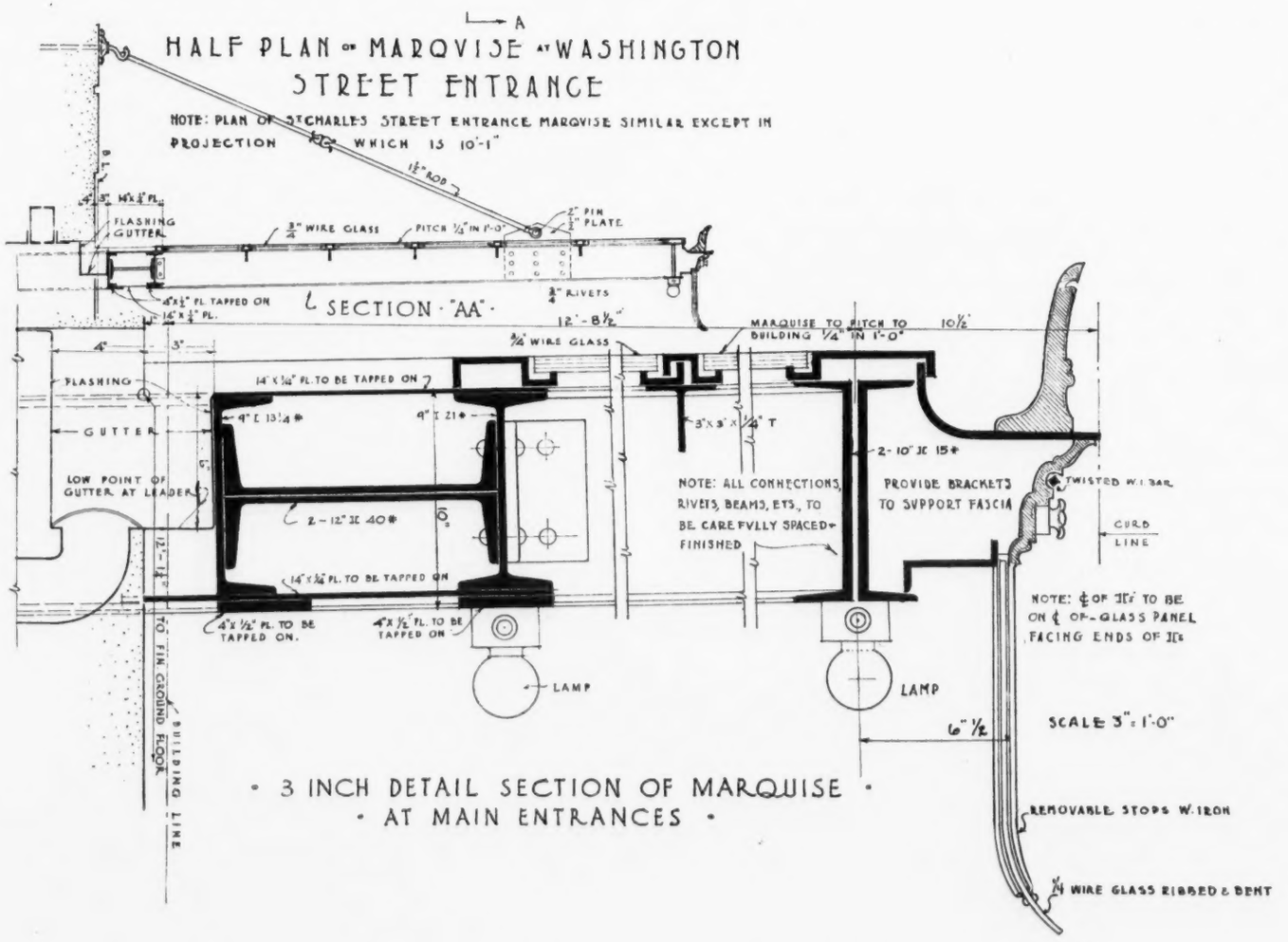
Details of Construction—Arcade and Balustrade, Chicago Temple Building.
Holabird & Roche, Architects, Chicago.

PENCIL POINTS

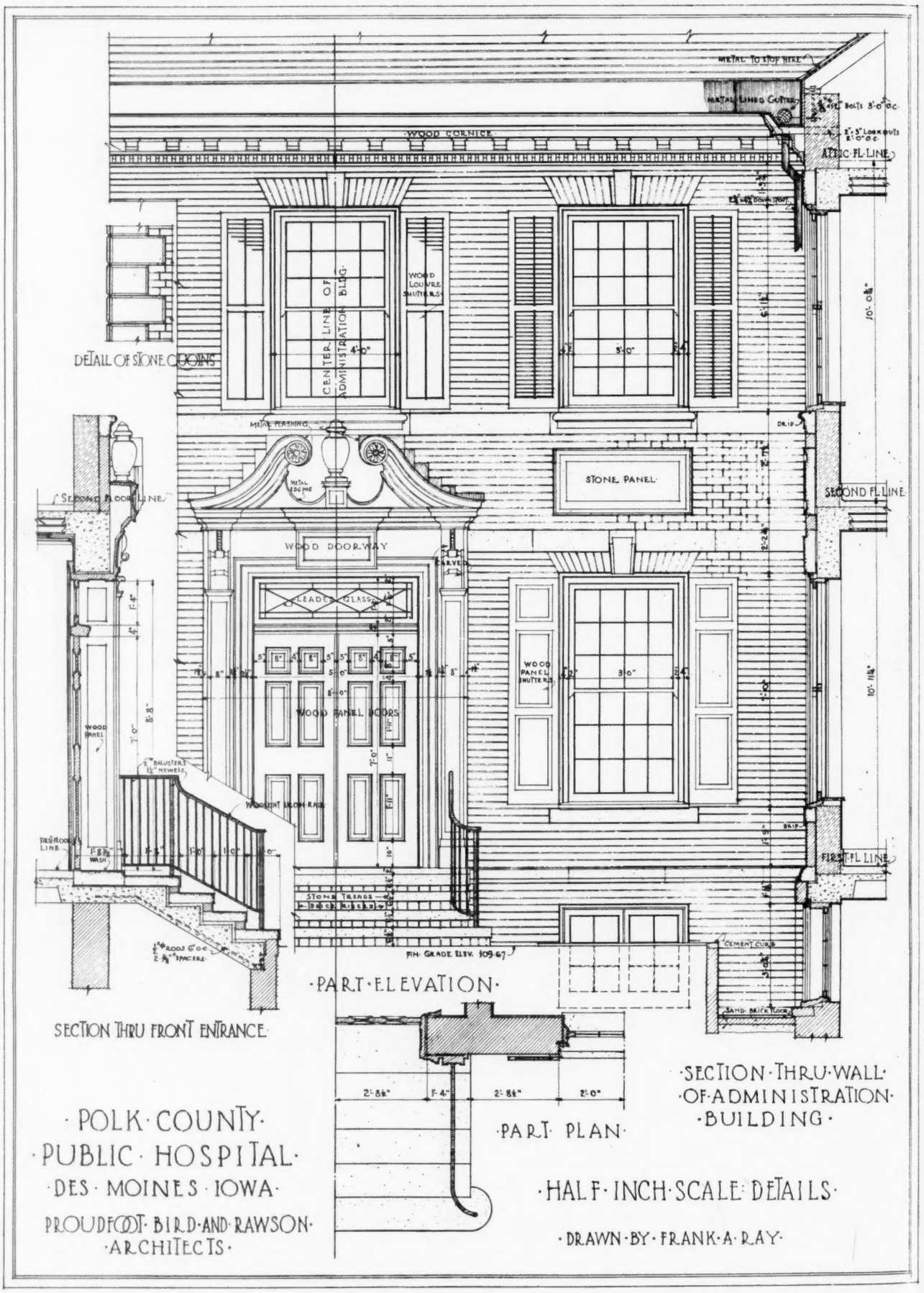


SECTION THRU TYPICAL SPANDREL AT 8TH FLOOR.

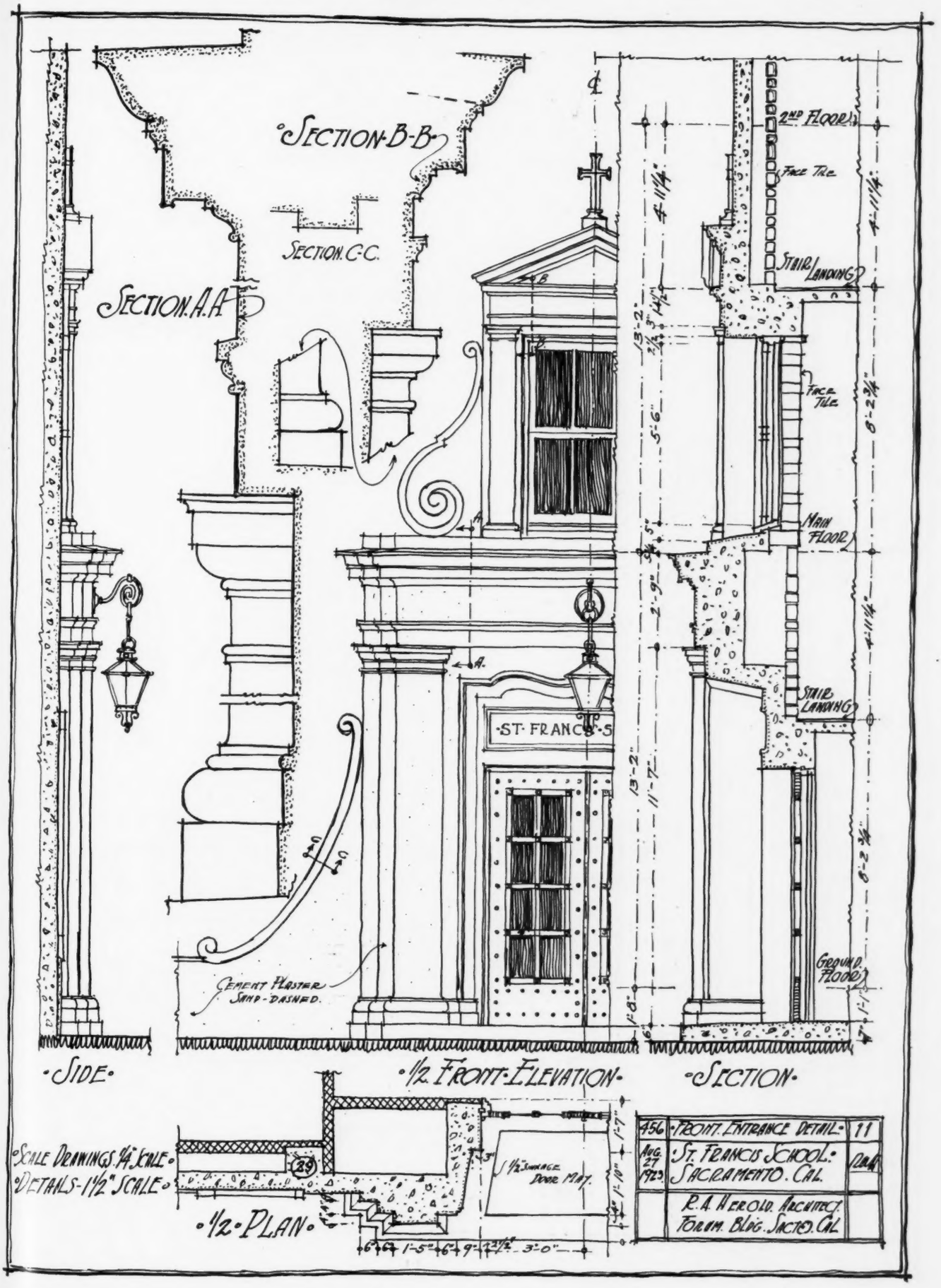
Details of Construction—Addition to The Shelburne Hotel, Atlantic City, N. J.
Warren & Wetmore, Architects, New York.


HALF PLAN OF MARQUISE AT WASHINGTON STREET ENTRANCE
NOTE: PLAN OF STCHARLES STREET ENTRANCE MARQUISE SIMILAR EXCEPT IN PROJECTION OF WHICH IS 10'-1"
SECTION "AA"
3/4" WIRE GLASS
PITCH 1/8" IN 1'-0"
2" PIN
1" PLATE
3/4" RIVETS
12'-8 1/2"
MARQUISE TO PITCH TO BUILDING 1/4" IN 1'-0"
10 1/2'
FLASHING
GUTTER
LOW POINT OF GUTTER AT LEADER
14" X 3/4" PL. TO BE TAPPED ON
9" I 13 1/4 #
9" I 21 #
2 - 12" I 40 #
3" X 3" X 1/4" T
2 - 10" I 15 #
NOTE: ALL CONNECTIONS, RIVETS, BEAMS, ETS., TO BE CAREFULLY SPACED & FINISHED
PROVIDE BRACKETS TO SUPPORT FASCIA
TWISTED W.I. BAR
CURB LINE
NOTE: ℄ OF I℄ TO BE ON ℄ OF GLASS PANEL FACING ENDS OF I℄
LAMP
LAMP
SCALE 3" = 1'-0"
6" 1/2
REMOVABLE STOPS W. IRON
1/4 WIRE GLASS RIBBED & BENT
TO FIN. GROUND FLOOR
BUILDING LINE
3 INCH DETAIL SECTION OF MARQUISE
AT MAIN ENTRANCES

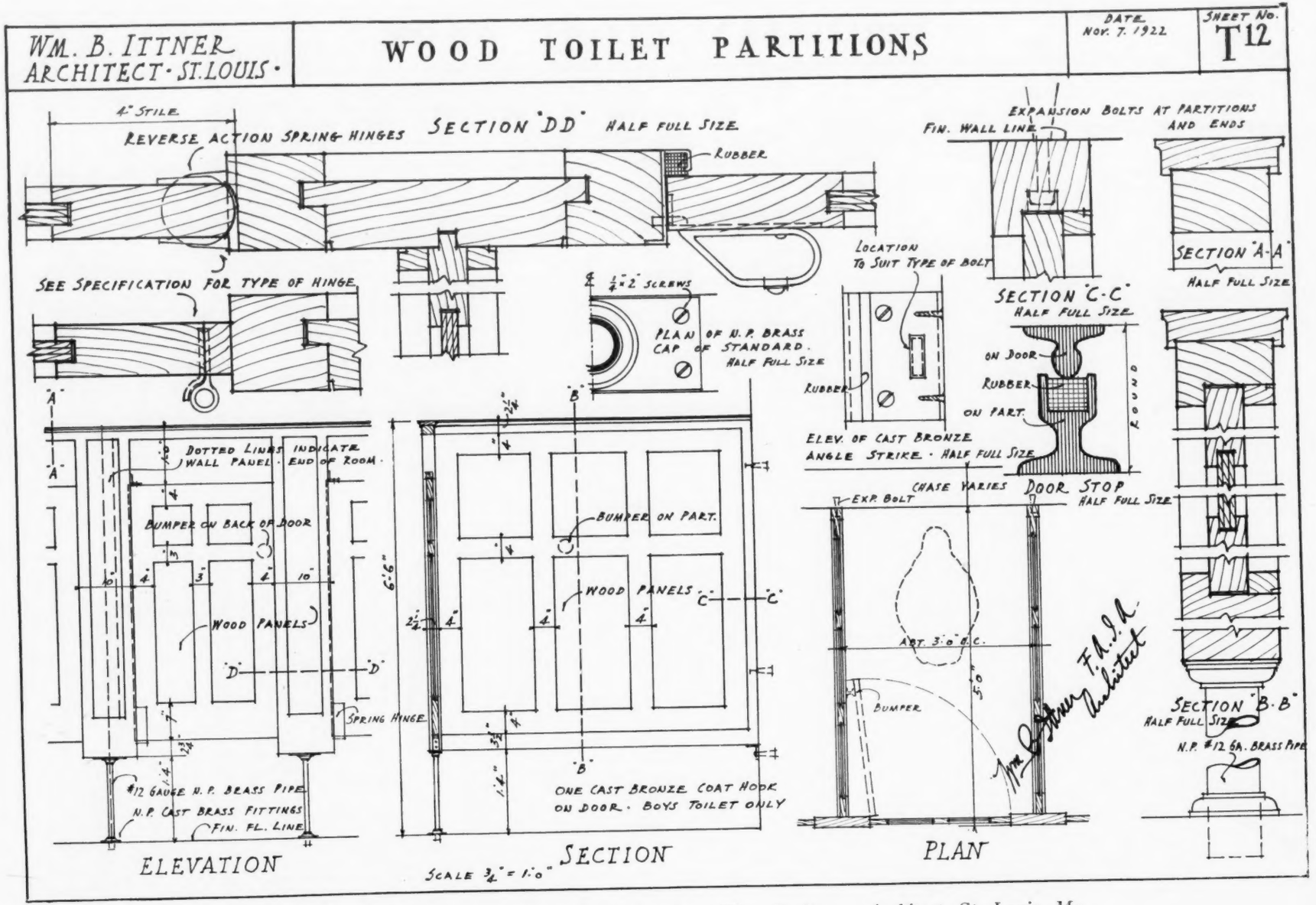
Details of Construction—Marquise. Geo. B. Post & Sons, New York, and Mauran Russell & Crowell, St. Louis, Associated Architects.



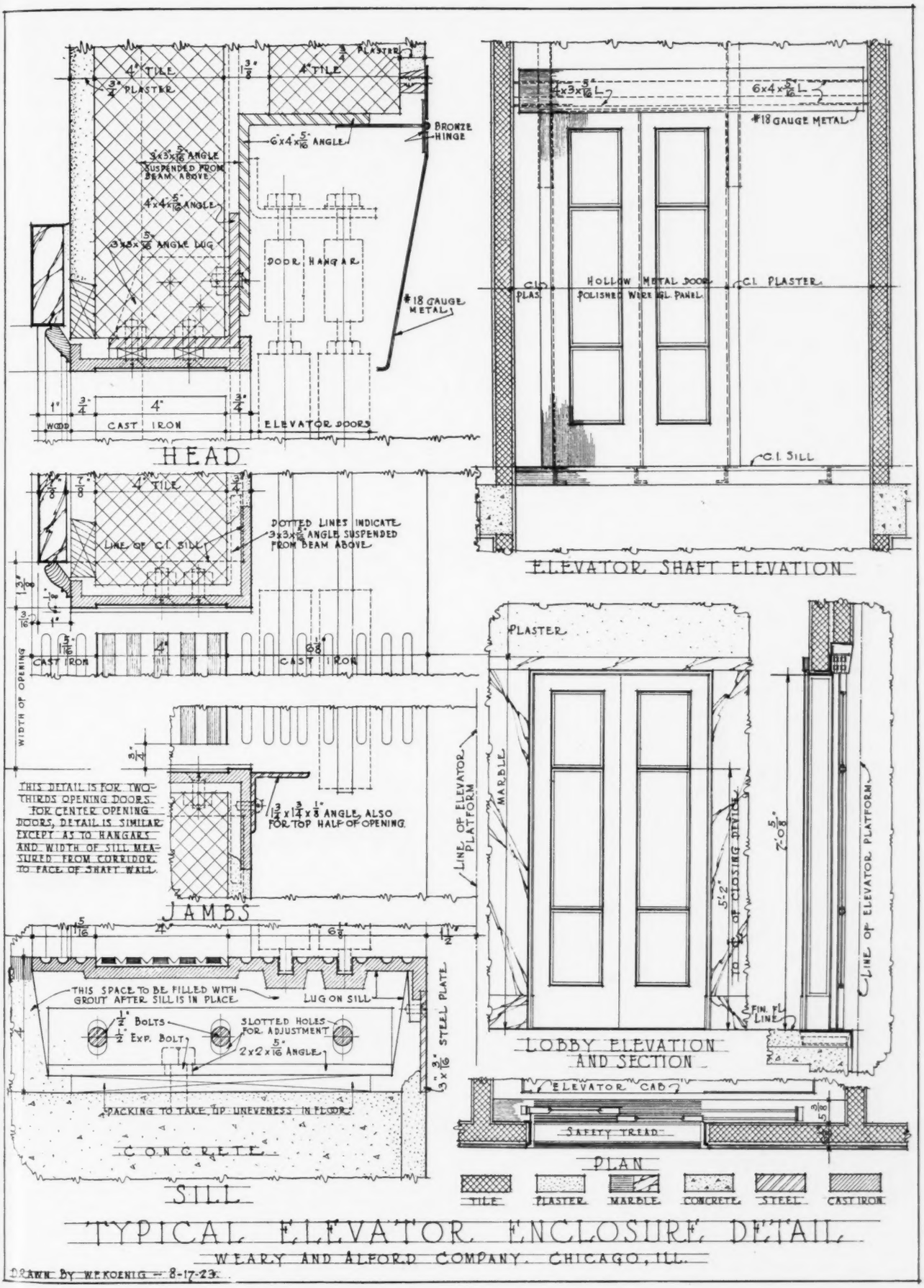
Details of Construction—Proudfoot, Bird & Rawson, Architects, Des Moines, Iowa.
Drawn by Frank A. Ray.



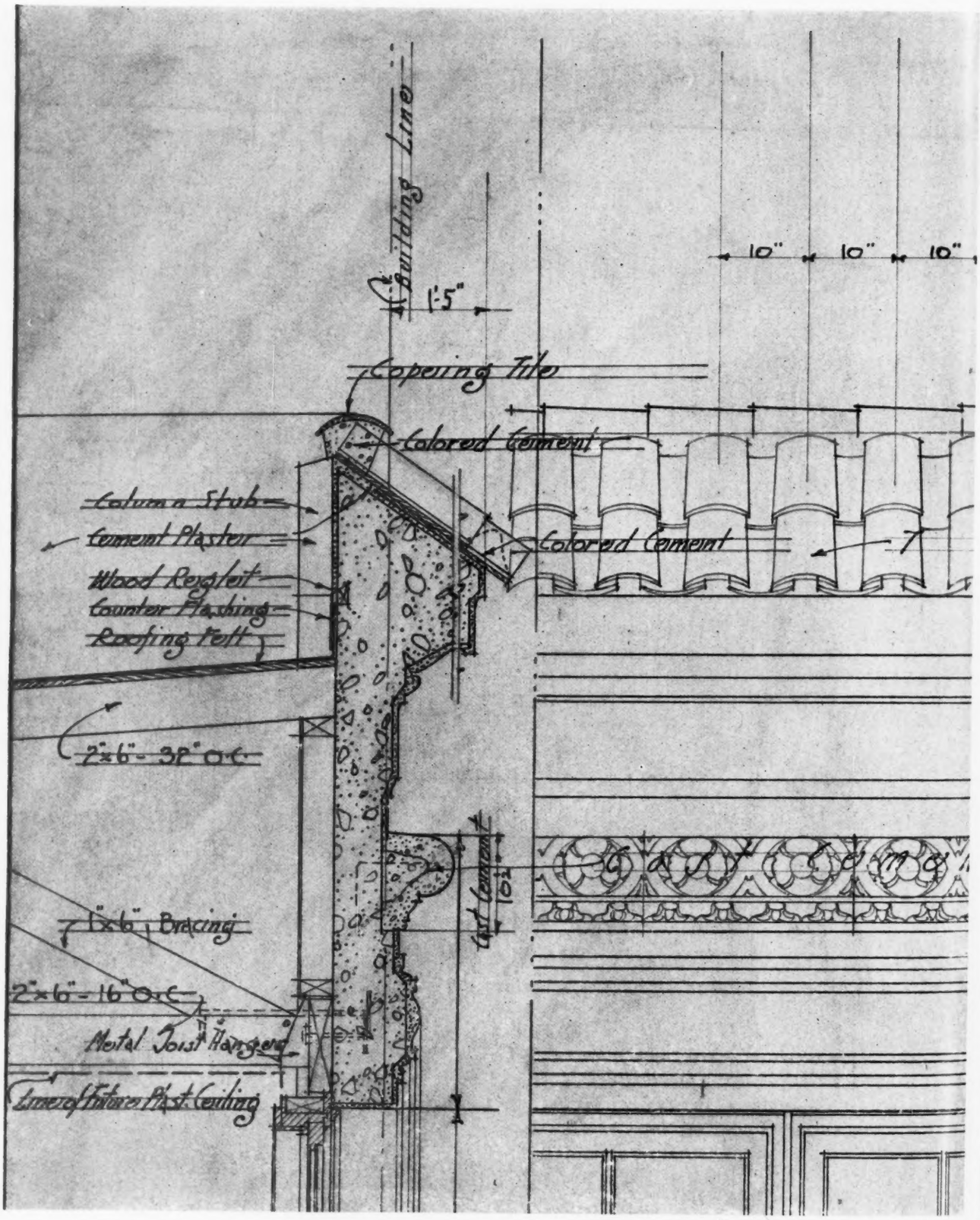
Details of Construction—St. Francis School. R. A. Herold, Architect, Sacramento, Cal.



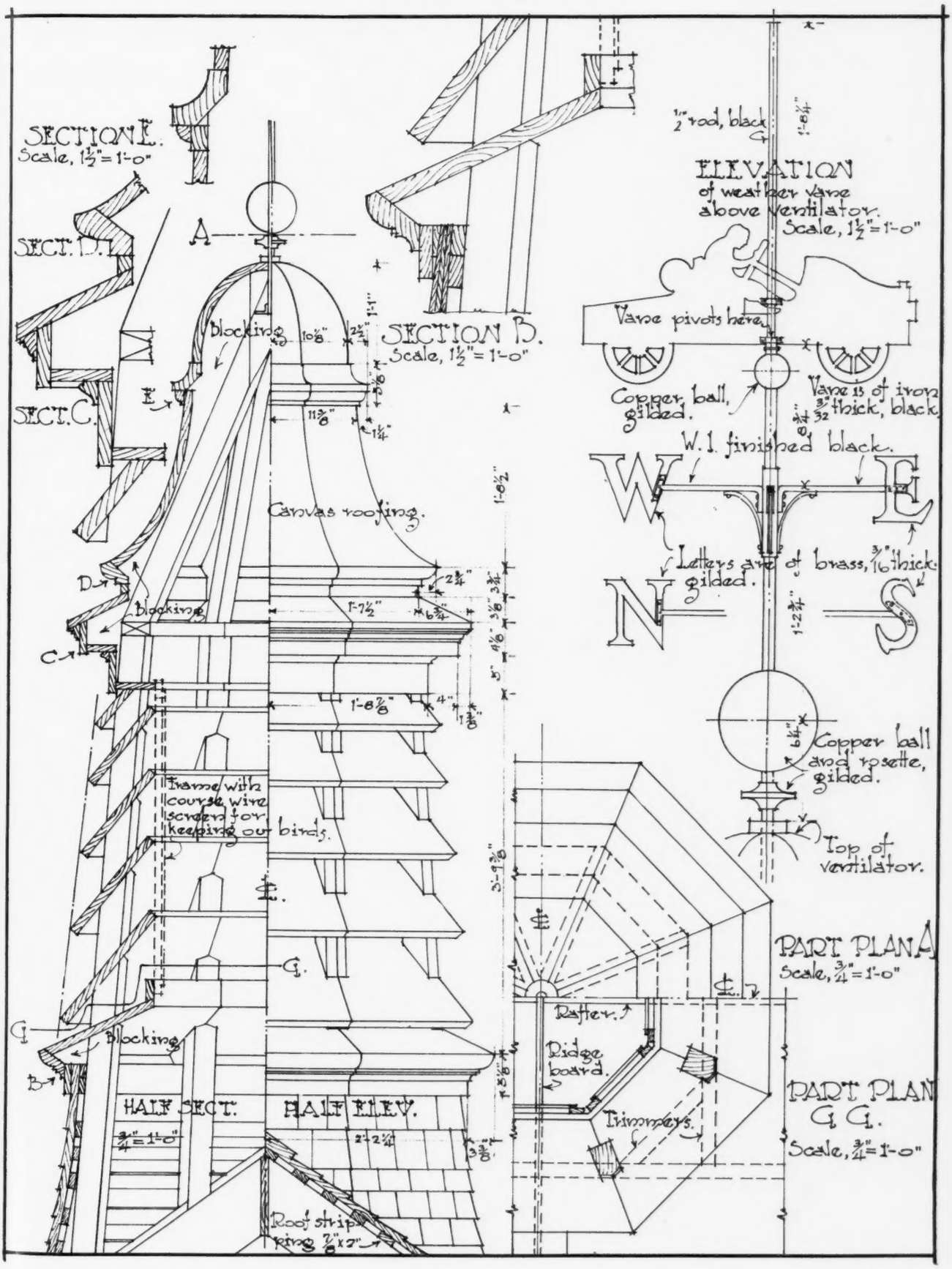
Details of Construction—Wood Toilet Booths. Wm. B. Ittner, Architect, St. Louis, Mo.



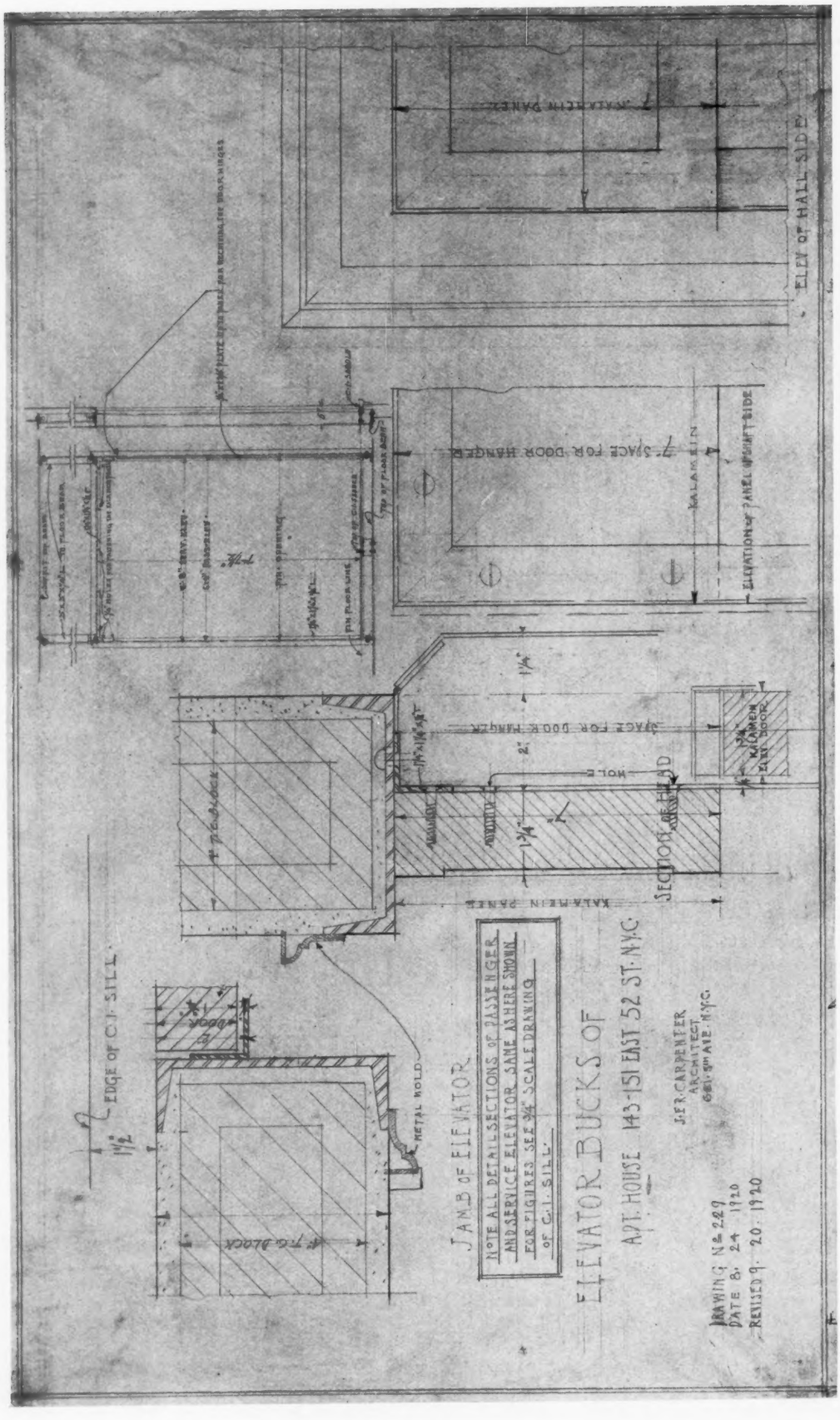
Details of Construction—Typical Elevator Enclosure. Weary & Alford Co., Architects, Chicago, Ill. Drawn by W. F. Koenig.



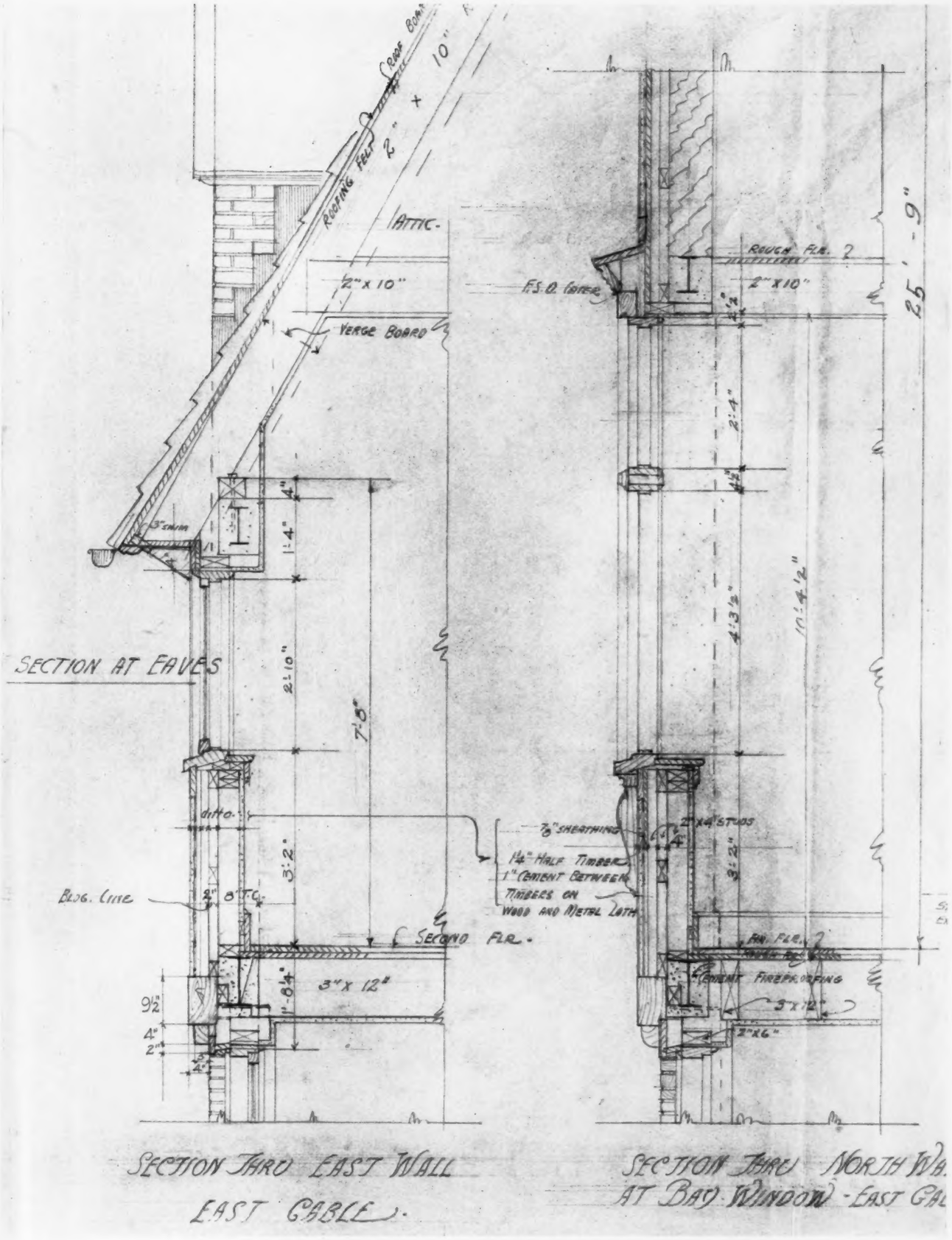
Details of Construction—School Building.
Wm. C. Hays, Architect, Sacramento, Cal.



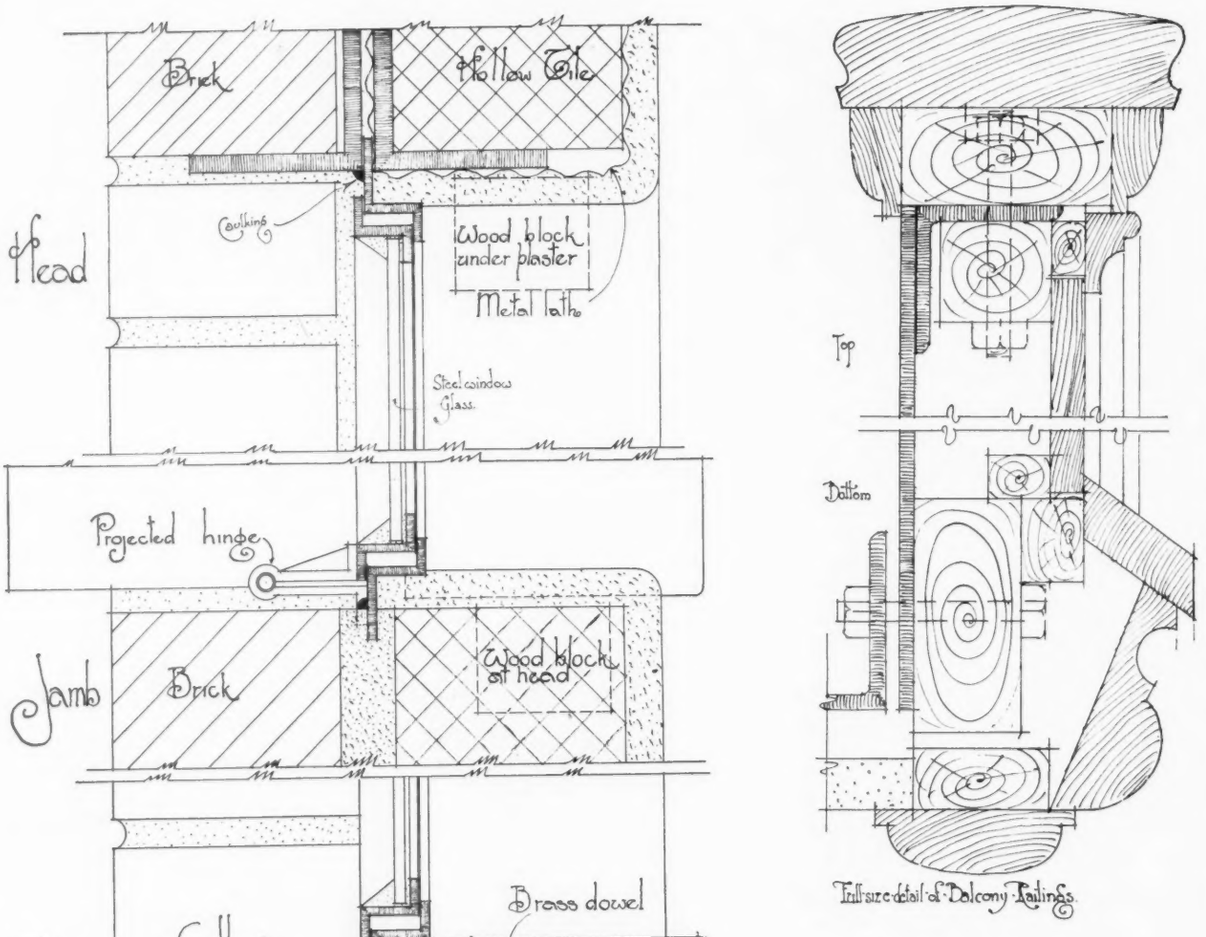
Details of Construction—Hay Loft Ventilator. Hewitt & Brown, Architects, Minneapolis, Minn.


ELEV OF HALL SIDE
KALAMEIN PANEL
7" SPACE FOR DOOR HANGER
ELEVATION OF PANEL ON HALL SIDE
SECTIONS OF BUCK
SPACE FOR DOOR HANGER
KALAMEIN ELEV DOOR
KALAMEIN PANEL
EDGE OF C.I. SILL
1½"
METAL MOLD
JAMB OF ELEVATOR
NOTE ALL DETAIL SECTIONS OF PASSENGER AND SERVICE ELEVATOR SAME AS HERE SHOWN FOR FIGURES SEE ¾" SCALE DRAWING OF C.I. SILL
ELEVATOR BUCKS OF
APT. HOUSE 143-151 EAST 52 ST. N.Y.C.
J.E.R. CARPENTER
ARCHITECT
681 5th AVE. N.Y.C.
DRAWING No. 229
DATE 8. 24. 1920
REVISED 9. 20. 1920

Details of Construction—Elevator Bucks of Apartment House.
J. E. R. Carpenter, Architect, New York.

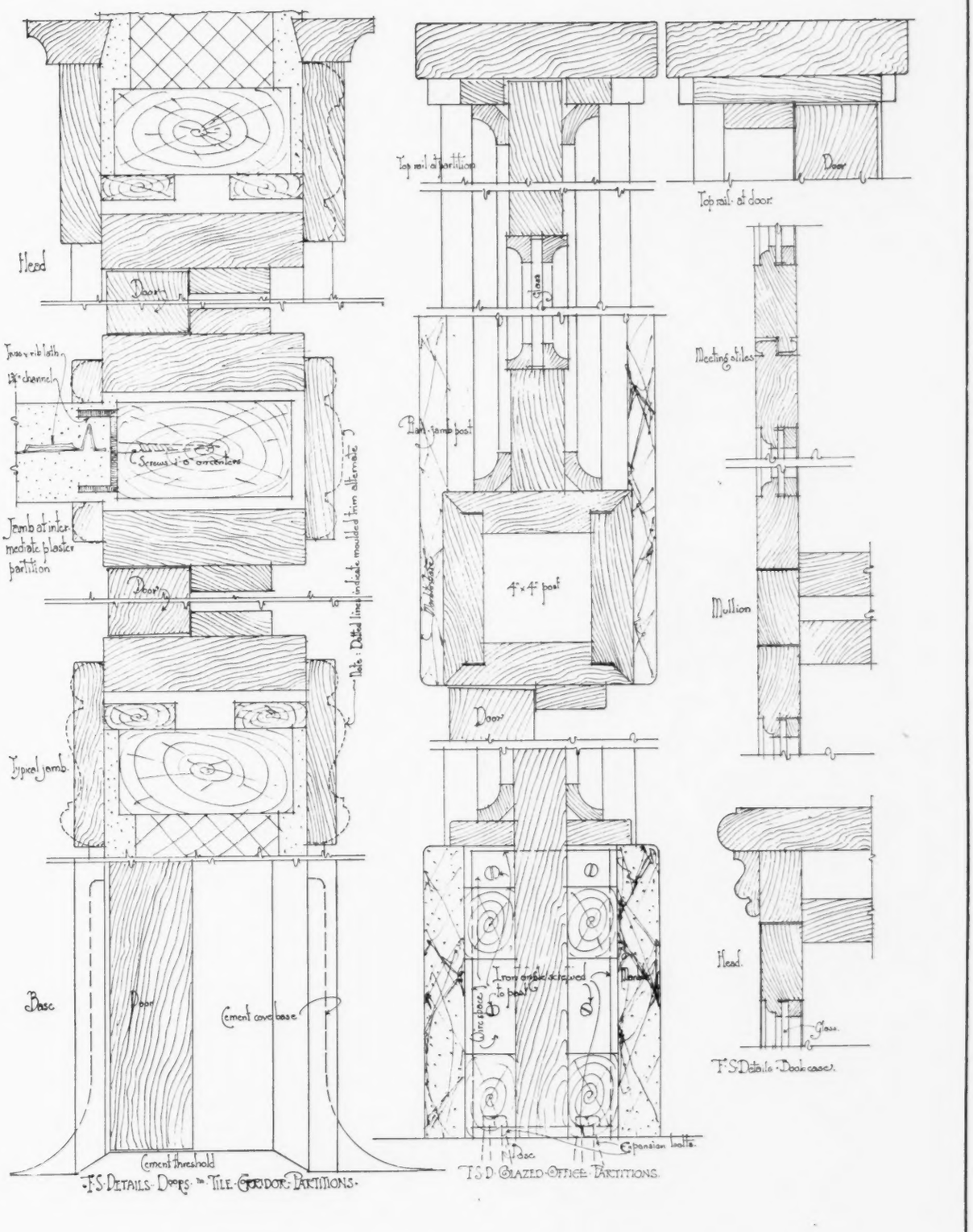


Details of Construction—Theatre for Bellevue Theatre Co., Upper Montclair, N. J.
J. H. Phillips, Architect, New York.

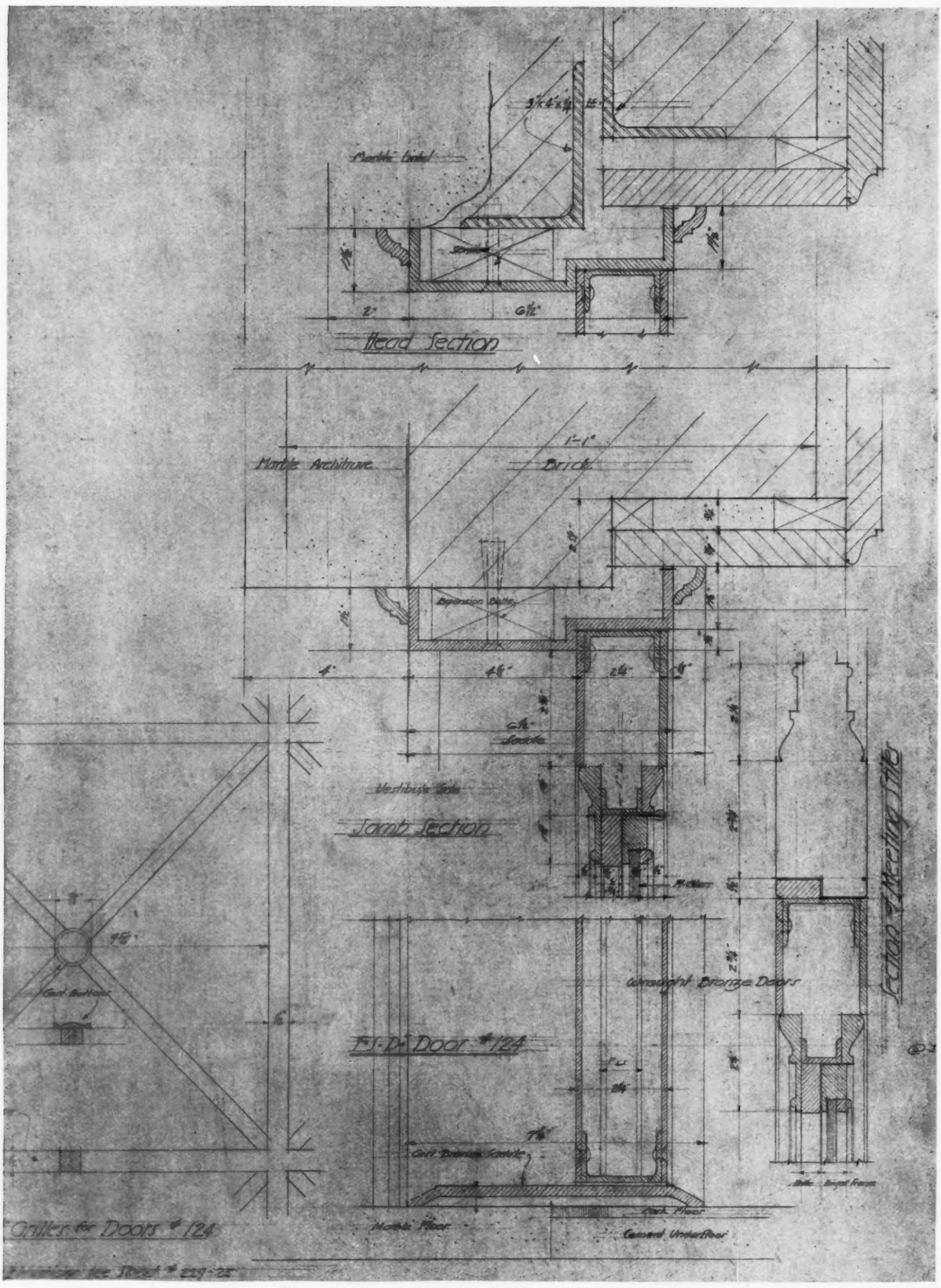


TYPICAL FULL SIZE DETAIL OF STEEL WINDOWS

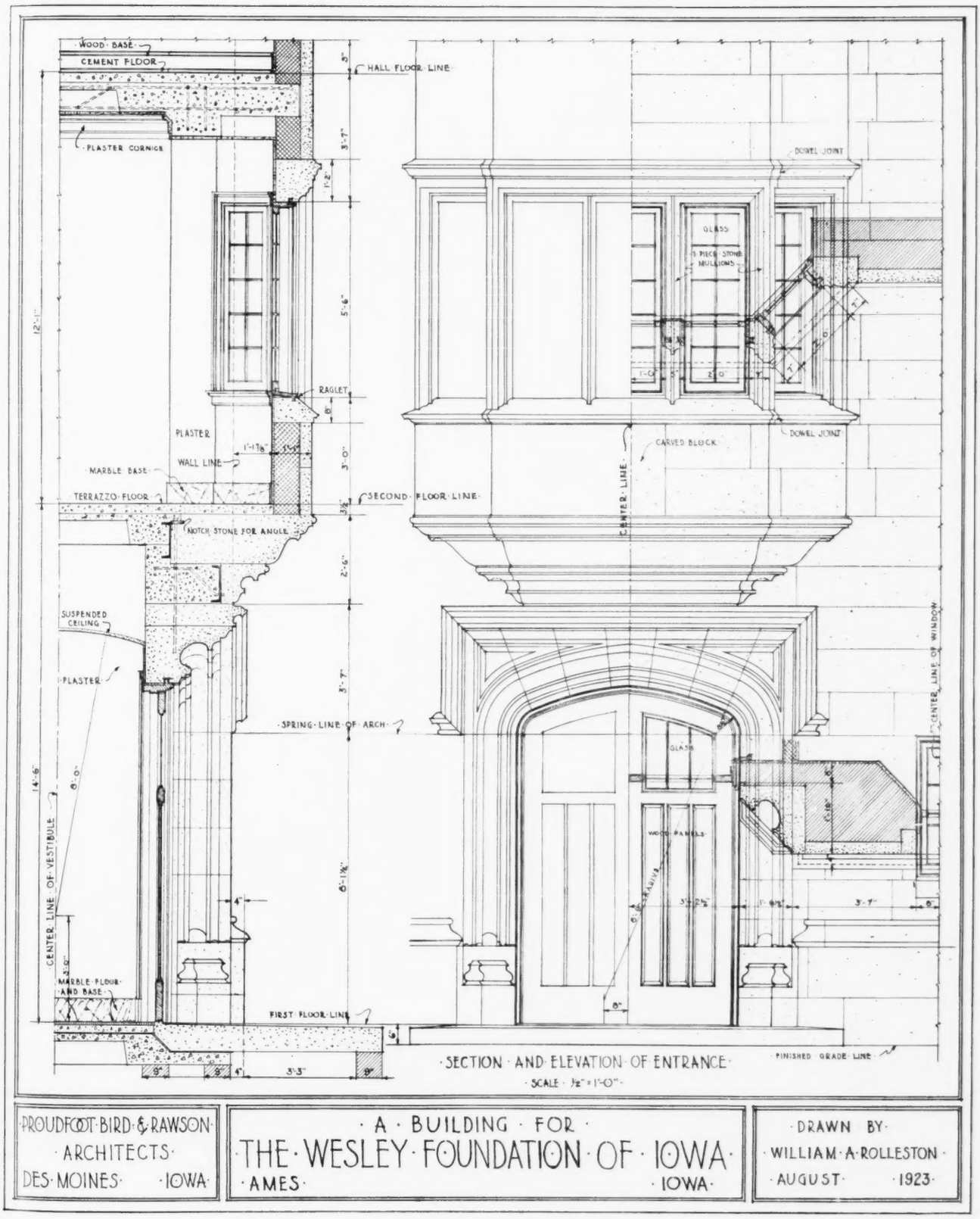
Details of Construction—People's Institute Building for the Salvation Army, Inc.
Thomas Pringle, Architect, Pittsburgh, Pa.



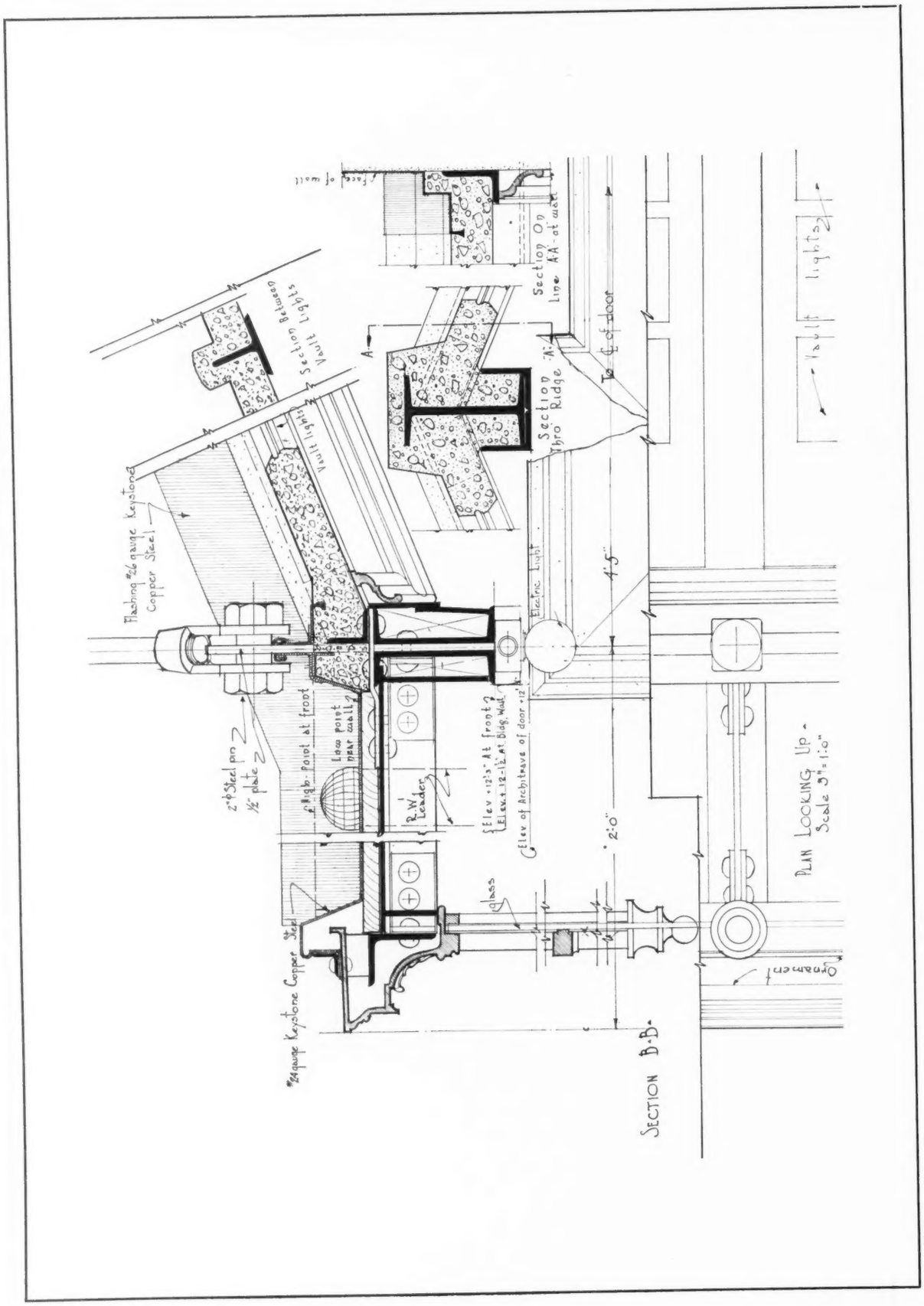
Details of Construction—People's Institute Building for the Salvation Army, Inc.
Thomas Pringle, Architect, Pittsburgh, Pa.



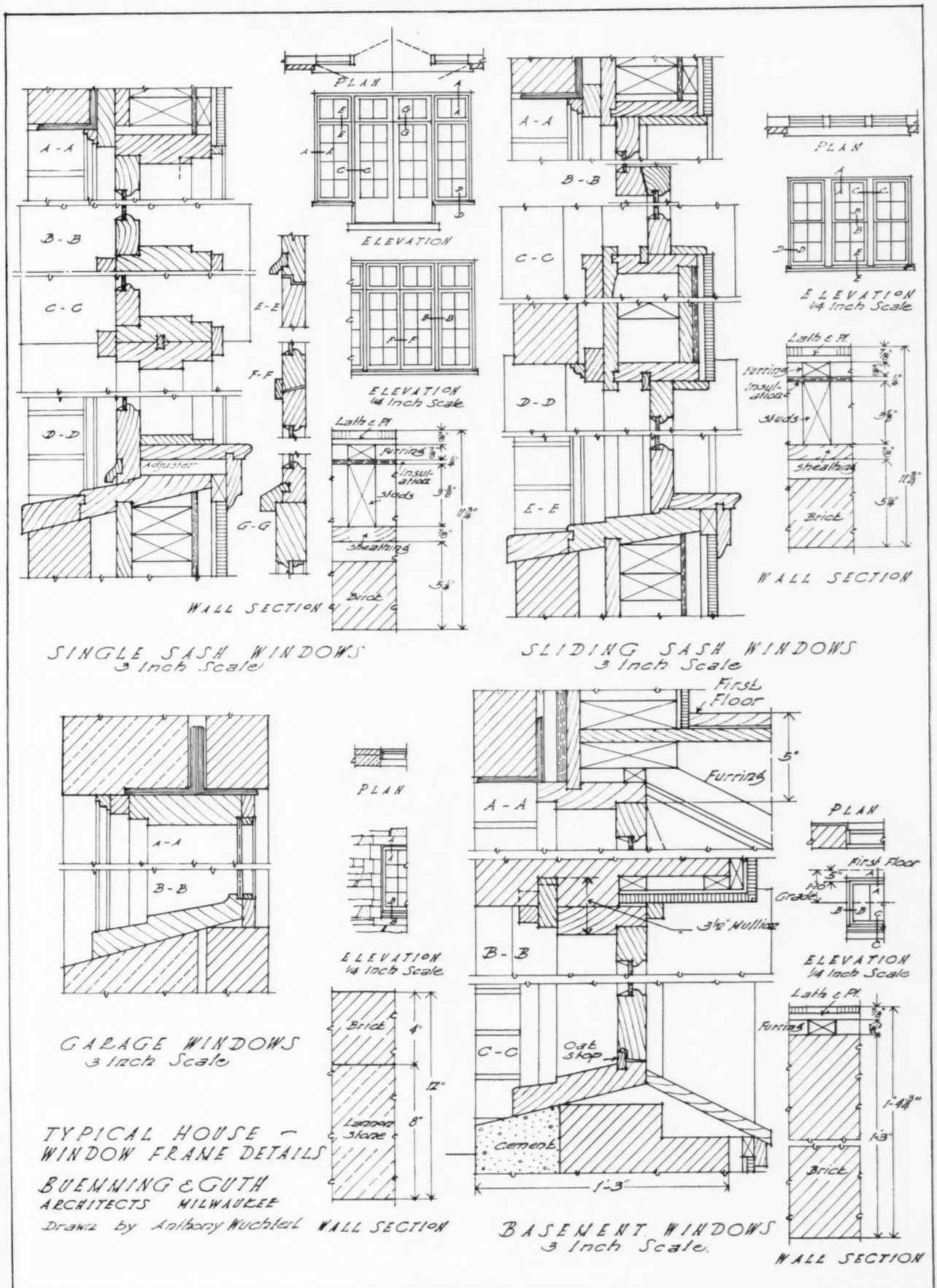
Details of Construction—Gennadeion, American School of Classical Studies, Athens, Greece. Van Pelt & Thompson, Architects, New York.



Details of Construction—Proudfoot, Bird & Rawson, Architects, Des Moines, Iowa. Drawn by William A. Rolleston.

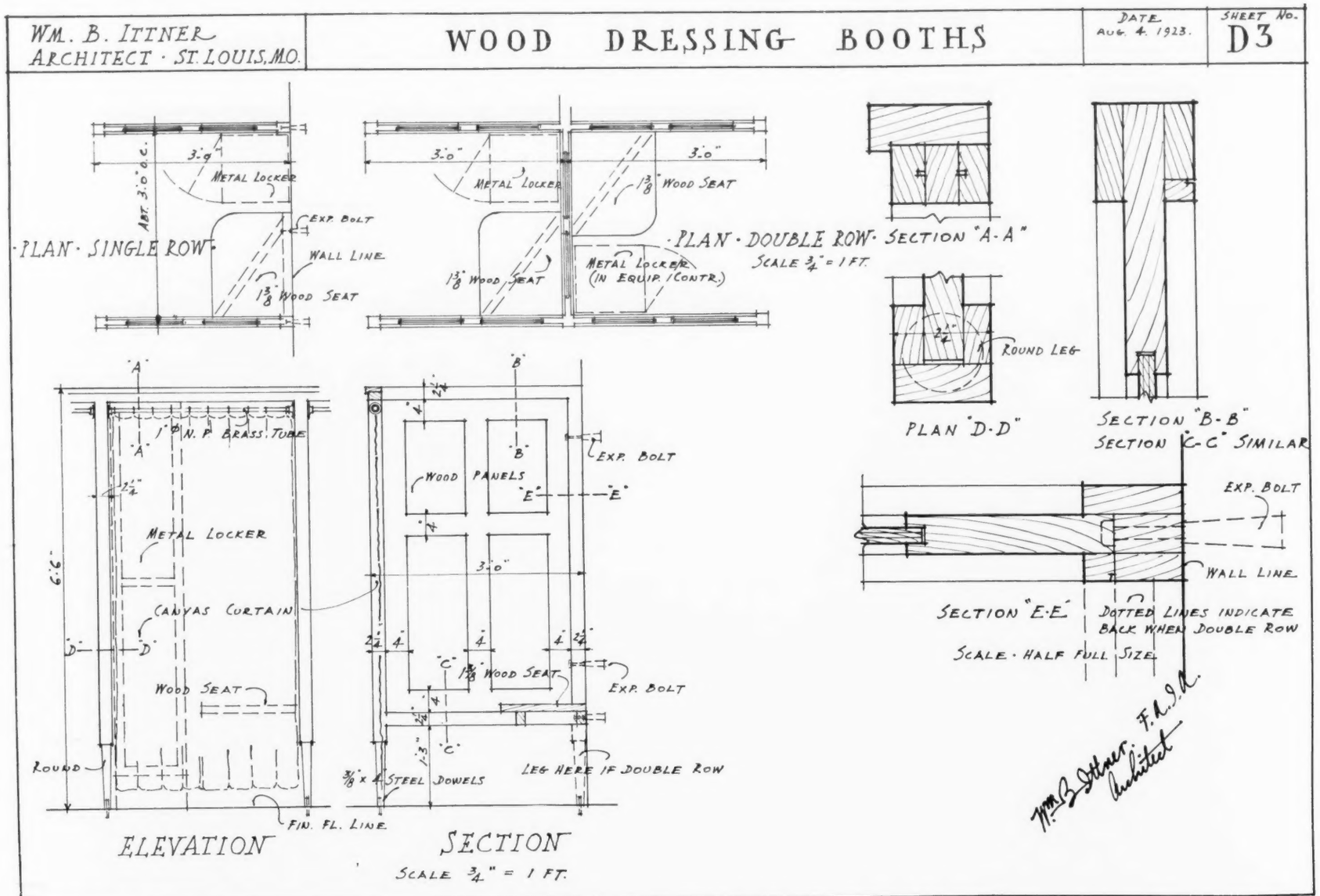


Details of Construction—Marquise for a Residential Hotel.
Geo. B. Post & Sons, Architects, New York City.

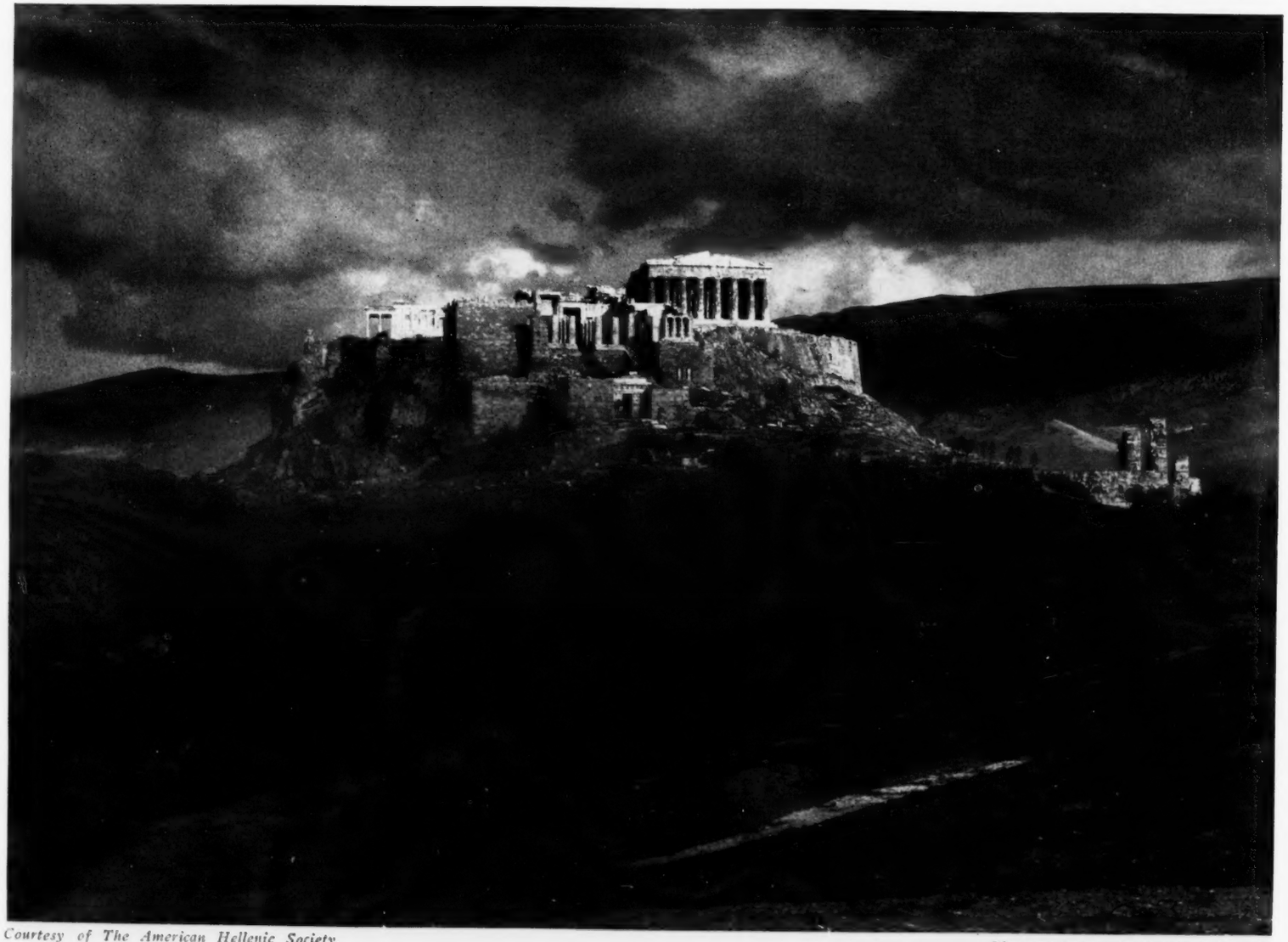


Details of Construction—Typical House Window Frame Details. Buemming & Guth, Architects. Drawn by Anthony Wuchterl.

Details of Construction. Geo. B. Post & Sons, Architects, New York City.



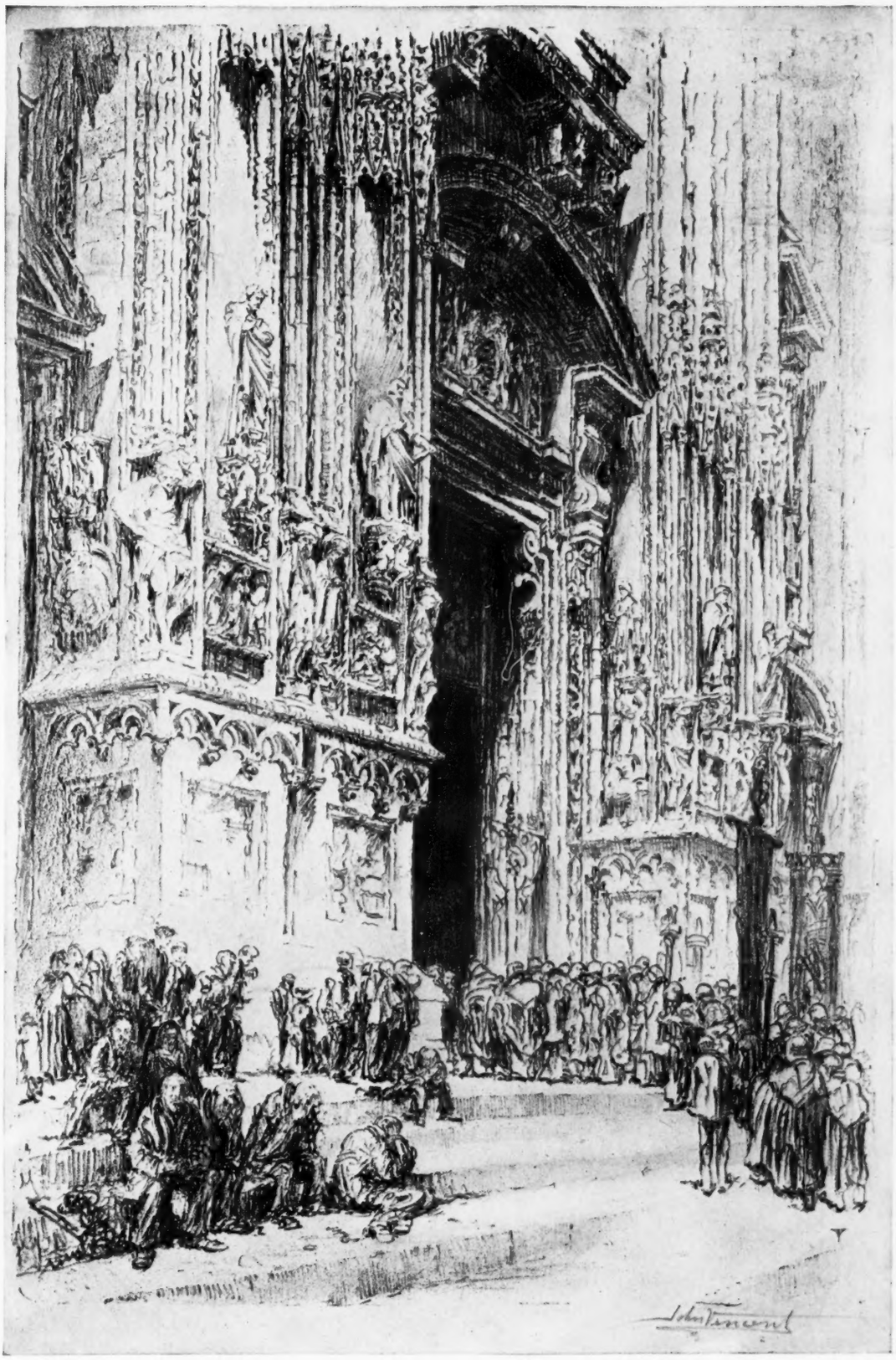
Details of Construction—Wood Dressing Booths. Wm. B. Ittner, Architect, St. Louis, Mo.



Courtesy of The American Hellenic Society. *Photographed by Frederick Boissonnas*

ACROPOLIS OF ATHENS FROM THE WEST

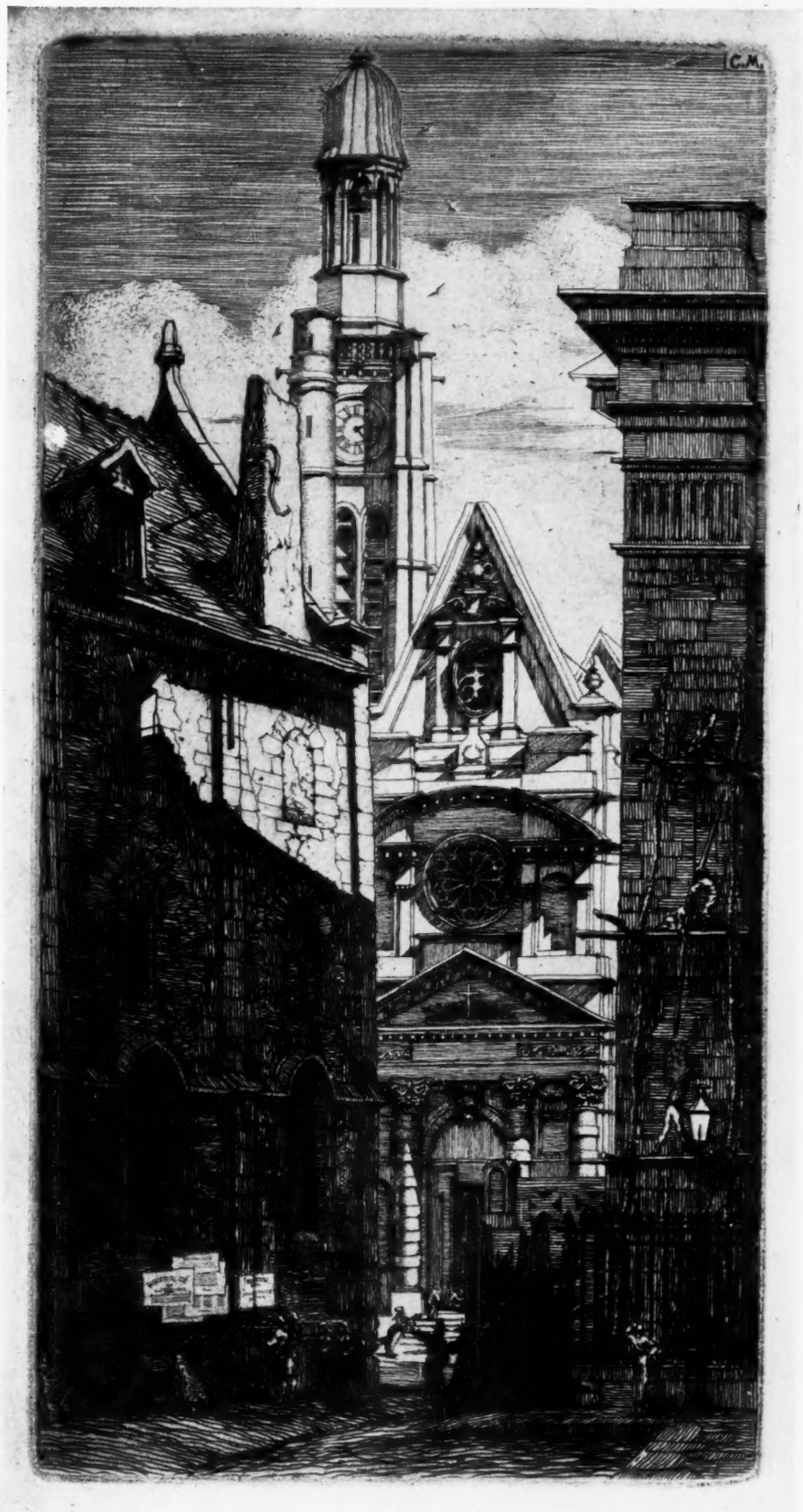
On the other side of this sheet is reproduced a remarkably fine photograph by Frederick Boissonnas showing the acropolis at Athens in a most impressive and beautiful manner. This photograph is one of the many fine views of Greek architectural monuments included in an exhibition sent to this country under the auspices of the Greek government. The original photograph was loaned to the publishers of this journal for reproduction.



UNIV. OF MICH.

PORTAL OF THE CHURCH OF SAINT MERRI, PARIS
FROM A DRAWING ON STONE BY JOHN VINCENT

The lithograph reproduced on the other side of this sheet is one of the most interesting of the many studies of European architecture made by John Vincent, whose renderings of architectural works are well known to the profession.



UNIV. OF MICH.

Courtesy of Kennedy & Co.

ST. ETIENNE DU MONT FROM AN ETCHING BY CHARLES MERYON

One of the series of etchings which Charles Meryon made by way of preserving an artistic record of the rapidly disappearing picturesque bits of Old Paris is shown on the other side of this page. Meryon's etchings are highly esteemed by collectors.

Courtesy M. Knoedler & Co.

LIBERTY'S CLOCK, ETCHING BY MUIRHEAD BONE

A notable etching is the one reproduced on the other side of this page. Muirhead Bone is one of the most masterly etchers and he has made an extremely interesting picture in this case from a bit of a London street with a building under construction, a few typical London buildings and the clock from which the ecthing takes its name.

PENCIL POINTS

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AMERICAN ACADEMY IN ROME

FROM a letter recently received by Mr. C. Grant La Farge, Secretary of The American Academy in Rome, from Mr. Gorham P. Stevens, Director, we quote the following items of news:

"The second volume of the 'Papers and Monographs of the American Academy in Rome,' has just appeared; the book in question is Miss Lily Ross Taylor's 'Local Cults in Etruria'; number of pages, 258. It is a scholarly production, and should prove a credit to both Miss Taylor and the Academy.

"The collaborative article on the Basilica of Constantine, prepared by Miss Franklin of the Classical School and Mr. Hafner of the School of Fine Arts, needs but a few touches to make it, too, ready for the printer. The article deals with both the archæological and architectural features of this most interestng monument.

"Miss Van Deman, a Former Fellow of the Classical School, and at present a Research Associate of the Carnegie Institute who has been with us all the year, has completed a preliminary report on the little known section of the Roman Forum, which lies between the Regia and the Arch of Titus. She has skilfully unraveled a mass of ruins. The results are soon to be published in the 'American Journal of Archæology.'

"The Session of the first Summer School is now half over. Although there are but five pupils, Prof. Showerman reports that what is lacking in numbers is fully made up in quality, seriousness and enthusiasm. He has no regrets. He prepared an excellent program, and is carrying it out. He took his pupils to Horace's farm the other day, and lectured to them at the site. A student must be 'dead' indeed who cannot derive inspiration under such circumstances.

"The student body is now exceedingly well organized. The Massier, Mr. Hanson, has just presented me with a four-page typewritten report of their last meeting, in which all the motions are duly proposed, seconded and carried; and there is even a finished report from a subcommittee. Where changes are proposed, there is an accompanying constructive suggestion as to how the change may be effected. And, best of all, there is a splendid spirit of co-operation which runs all through the report.

"This is the season of repairs to the properties, and, as a consequence, the superintendent of Buildings and Grounds, Mr. Canziani, is an exceedingly busy man. I fear there will be a good deal of painting next summer, and I will accordingly prepare an item for it, which will appear in the next budget. There has been no rain in Rome for the last three months, and the intense heat of the sun has injured the paint in many places.

"There have been two gifts during the month, Mr. A. S. Frissell, who came with a letter of introduction from Mr. Mead, presented the Academy with a check of $100, to be expended at the discretion of the Director. The other gift came from an American dealer in antiques, by the name of Augusto Frank; he has given us a valuable porphyry slab for the fresco class, for fresco should be ground upon hard substances; the slab measures two feet by one foot six inches and is an inch and a half thick. This is an unusually large slab.

"The Stholberg Villa, which we should like to have as a hostel for women students if we had the funds, is to be privately sold within a few months by the Italian Government for the benefit of Italian subjects who lost property in enemies' countries during the war. Sig. Del Frate has filed a request with the Government, stating that the Academy would like to be considered a possible purchaser—the request does not bind us in any way to buy the villa, however.

"I was invited last Sunday to attend an exhibition of the work submitted for the Italian 'Prize of Rome' in painting and mural decoration. The King was there, and talked encouragingly to each competitor. Thus both France and Italy believe these competitions to be so important that the chief officers in these countries play an important rôle in the competitions. Do you not believe that the present financial condition of the Academy warrants our sending our men to Washington, so that the President may speak a word of encouragement to each man? If properly capitalized, it would certainly bring the Academy to the attention of the young men in America, which is a most important matter.

"Still another matter, which I hope to place in detail before the Board soon, is the possibility of the Alumni of the Academy establishing a prize in Italy, open only to Italians. The scheme has worked well in the Ecole des Beaux Arts at Paris, and should work well here. The artistic debt of America to Italy is great indeed, and I think the scheme would readily find supporters. The good will it would engender should greatly strengthen the position of the Academy in Italy.

"The Franks, the Lamonds, the Van Burens, Professors Curtis, Faulkner and Manship, and Mr. Davico, are away in various parts of Europe. Prof. Fairbanks, Prof. Showerman, Mr. Canziani, and I are now holding the fort in Rome. Prof. Lord, who is to be the Annual Professor in the Classical School next year, has just passed through Rome with a party of a hundred people, en route for Greece. Mr. Blashfield has also been here, to see how Mr. Lascari is progressing with the mosaic decoration of the church in Washington; the work is advancing exceedingly well. Mrs. Breck and Mrs. Crowninshield, wives of former Directors, happen to be in Rome at this time, and so is Miss Haight, a professor from Vassar—she is planning to use our library for the next month. Finally, Mr. C. P. Jennewein, a former Fellow in sculpture, is occupying a vacant studio for the next two months; he has already made a delightful group of a cupid and stork, to commemorate the birth of his third child in Rome a few weeks ago."

From a letter from Mr. Frank P. Fairbanks, Professor in Charge, School of Fine Arts, we quote the following:

"During the past month we have had nine of our Fine Arts Fellows in residence, which with the addition of the classical men and visiting students, has kept a fairly normal amount of activity among our men. We are fond of believing that during the summer there is some cessation of activities, academic and social, and to a great degree the men are free from the latter so that they are apt to work more progressively than usual, provided the weather conditions are not too trying. But the number of travellers that select the summer in which to see Europe

(*Continued on page* 69)

Rendering in Pencil and Water Color by L. C. Licht, Palisade, N. J.

(*Continued from page 67*)

keeps the Faculty pretty continuously occupied as cicerones about the Academy or as hosts for the more personally interested.

"This year a greater proportion of our official family have succumbed at one time or another to the rather trying and protracted heat and drought.

"J. K. Smith, senior architect, has been out of his studio for nearly ten days—and finds his work set back in consequence at a time when he had hoped to have finished and been away on his travels in the north. Mrs. Smith has kept almost continuously at work on his drawing and "full sizes" while he has been ill.

"Cecere, sculptor, has carried on his work notwithstanding a bad case of tonsilitis, a prevalent ailment in Rome. Ciampaglia, Senior Painter, is free from any local tribulations and well advanced on his second big decorative canvas. He has practically all his required work completed.

"The second year architect, sculptor and painter, Hafner, Amateis and Schwarz, are all busy and thriving. Hafner's model of the Dome of St. Peter's is well advanced and is expected to be delivered by the contractor to the Academy by September.

"Of the third year group, Marceau, architect, is traveling; Stevens, sculptor, is away for a few days while his figure is being laid up by an assistant; Floegel, painter, has completed a second copy of one of the muses by Lo Spagno in the Conservatore museum. He has also been busy with his first year composition and with a fresco panel on which he is experimenting.

"Ralph E. Griswold, Landscape Architect, with the aid of a Ford car that he picked up in Nice and will bequeath to J. K. Smith, has completed his travels in France, and gone over to England to study the important examples of gardening, many of which may not be kept up to their present standard because of new ownership and the predilection of some of these proprietors to change gardeners who have grown up with the estates.

"Prof. Lamond is at Canazei; Sowerby is about to join him; Randall Thompson, the first year composer, is in Clovelly, England. Howard Hanson is trying to complete the score for his "North and West" symphony that he may supply it in duplicate for production in London and New York next year.

"Chas. B. McGrew, Visiting Architect from the University of Illinois on a Plym Scholarship, has gone north to to obtain further data on a collection of measured drawings of Italian doors for publication.

"Prof. Faulkner has completed his part of the Thrasher-Ward Memorial in a very able and successful manner. He is off for a well earned change and will return in the fall with Prof. Manship to help solve the color problem of material to be used in the sculptural development of the memorial.

"I had the great personal pleasure of showing the Academy to Dr. Dever S. Byard and his family on his visit to Rome. He had been urged to visit us by Mr. Trowbridge and Mr. Boring."

AWARD IN TRAVELLING SCHOLARSHIP OF THE ALABAMA MARBLE COMPANY

A JURY of Award consisting of Mr. R. Clipston Sturgis of Boston, Mr. Abram Garfield of Cleveland, Mr. Donn Barber and Mr. John V. Van Pelt of New York, have awarded a traveling scholarship of eighteen hundred dollars, established by the Alabama Marble Company for the purpose of studying the use of interior marbles in Europe, to the winner of the Competition for a small bank building—Mr. Frank Martinelli of New York City, whose portrait appears on this page. Mr. Philip Sanfilippo was placed second.

The competition was conducted under the guidance of the Educational Committee of the American Institute of Architects.

FRANK MARTINELLI

FRANK MARTINELLI, who has been awarded the travelling scholarship established by The Alabama Marble Company, was born in Avigliano, Italy, in 1899. Mr. Martinelli's family have been builders for generations and at an early age he took up the work outside of school hours.

When Mr. Martinelli came to this country in 1913 he took up carpentry. In 1916 he entered the class in Architectural Construction at Cooper Union. He gives much credit to his instructor, Mr. John C. McGowan.

In 1918 he secured a position with Hoggson Brothers, as office boy. Five months later he entered the office of Mr. Philip J. Rocker, New York, where he made rapid progress as a draftsman, which he attributes to the interest Mr. Rocker took in his development. In 1920 Mr. Martinelli entered the office of York & Sawyer. In 1921 he made a trip abroad, visiting Italy, France, England and Spain and returned to New York a year later. Shortly after his return from abroad Mr. Martinelli entered the office of Mr. H. T. Lindeberg as a designer.

Mr. Martinelli became an American citizen in 1921. He studied the problems of the Beaux-Arts Institute of Design in the Atelier Corbett and has entered many competitions during the past few years.

THE TECHNOLOGY CLUB, SYRACUSE, N. Y.

HOW successful the affiliation movement has been is shown by the fact that the Technology Club of Syracuse, Inc., is preparing to double its winter's program. In addition to the regular Monday evening lectures it is planned to conduct every Friday evening in the Club rooms "An Hour with Syracuse Industries." The great diversity of local industry, the Club managers feel, will enable them to give a program of unusual excellence and interest.

Upon invitation of the Rochester Engineering Society President Wilbur Miller will outline to that organization on Friday, September 14, the affiliation plan which was inaugurated by the Technology Club and has proven so successful.

Pencil Study by C. D. Maginnis.

ISIDOR RICHMOND

ISIDOR RICHMOND, winner of the Rotch Travelling Scholarship in Architecture, sailed August 18 on the S. S. "Orbita" from New York for Southampton, England. Mr. Richmond plans to spend two years in travel, studying the masterpieces of architecture in England, France, Italy, Spain, Belgium and Greece.

Mr. Richmond's home is at Beachmont, Mass. He attended grammar school and high school at Revere, Mass., and at the age of sixteen entered the office of Cram & Ferguson, and, while employed there, studied in the night classes of the Boston Architectural Club.

He was inspired and encouraged by the counsel of Mr. Ralph Adams Cram and under his advice, entered the Massachusetts Institute of Technology, where he later studied under Mr. Cram.

He enlisted in the Navy in June, 1917, held grade of 2nd Class Seaman, 2nd Class Yeoman, 1st Class Yeoman. Was transferred to Naval Aviation, sent to Ground School at M. I. T., then to Pensacola, Fla., where he was taught to fly. He was commissioned Ensign and sent to Air Station at Chatham, Mass., for Coast Patrol duty. He was raised to the rank of Lieutenant, Junior Grade. He was discharged from service April, 1919.

In the summer of 1920 he went to France with the Harvard Construction Unit. His work in this connection is covered by the following quotation from the Harvard Alumni Bulletin:

"The most interesting architectural work carried out by the Unit was that of Isidor Richmond, M. I. T., '16, and Myron R. Dassett, Columbia, '18, who made detailed studies and measured drawings of the Eglise St. Jacques, from which the restoration of the church will be carried out. Their studies were directed by M. Deneu, the foremost living authority on Gothic and Renaissance architecture, who has entire charge of the restoration of the Cathedral. During his conferences he frequently branched off into informal lectures on architectural points brought up by the latest excavations in the Cathedral. As his office, where Richmond and Dassett worked, looked out on the nave, they had an additional inspiration for earnest work."

The Rotch Travelling Scholarship was founded in 1883 by the children of the late Benjamin S. Rotch, of Boston, in pursuance of their father's intention of establishing such a prize during his lifetime. The Trustees of the fund have given the general direction of the affairs of the Scholarship to the care of the Boston Society of Architects, the general management being in the hands of a special committee. The successful candidate in each yearly examination receives from the Trustees of the Scholarship the sum of two thousand dollars, to be expended in foreign travel and study during two years, under the regulations of the committee.

ADDRESSES WANTED

WE SHALL appreciate it if those whose names appear in the following list will send correct address to us.—PENCIL POINTS: Natt A. Piper, Long Beach, Cal.; Samuel W. Finley, Los Angeles; J. D. Johnson, Los Angeles; Edward Lamel, Los Angeles; H. L. McNabb, Los Angeles; Ernest E. Hunt, Ocean Park; Jack L. Williams, Pasadena; Ramon La Tourette, San Francisco; Lorren & Bradford, San Francisco; James H. Pearse, San Francisco; Wilbur J. McElroy, Norfolk, Conn.; T. S. McClelland, Washington, D. C.; Andrew F. McDonald, Washington, D. C.; Wm. G. Ward, Washington, D. C.; Thos. H. Brown, Atlanta, Ga.; W. L. Felch, Atlanta; Robt. Isenbarger, Champaign, Ill.; W. Moir, Chicago; Trent E. Sanford, Chicago; F. P. Uphues, Chicago; Elihu Jones, Chicago Heights; Paul N. Duca, Urbana, Ill.; Peter Du Pay, So. Bend, Ind.; E. D. Van Frank, Indianapolis; O. W. Schomburg, South Bend; Fred A. Morgan, Ames, Iowa; Alvin R. Firester, Salina, Kan.; Herbert Levy, New Orleans, La.; C. E. Downs, Boston, Mass.; Ralph W. Hammett, Cambridge, Mass.; F. S. Hayes, Cambridge; S. R. McCandless, Cambridge; Geo. L. Paine, Jr., Cambridge; Carl M. Stiles, Cambridge; Sen Yu, Cambridge; Catherine B. Heller, Ann Arbor, Mich.; Leslie Van Doren, Ann Arbor; Albert J. Lathan, Detroit; Harry T. Morgan, Port Huron; Paul C. Dathe, Minneapolis, Minn.; Mark Nelson, Minneapolis; Robert Crevier, St. Louis, Mo.; Vincent J. Kelly, St. Louis; P. P. Lewis, Omaha, Neb.; H. Tyson Hamel, Atlantic City, N. J.; H. M. Gerns, Woodridge; J. F. Butler, Ithaca, N. Y.; Walter Briant, New York City; Faustino B. Urbano, New York City; Henry A. Martin, Syracuse; H. Artan, High Point, N. C.; J. J. Davis, Raleigh, N. C.; Chas. F. Cellarius, Cincinnati, Ohio; Fred B. Klein, Cincinnati; R. C. Nowling, Cincinnati; Wm. D. Guion, Cleveland; Prof. J. N. Bradford, Columbus; Gilbert P. Schafer, Columbus; R. M. Morgan, Stillwater, Okla.; J. W. Schmidt, Tulsa; John Bogdan, Philadelphia, Pa.; Thomas J. Earley, Philadelphia; Albert V. Greene, Philadelphia; Chas. Shippman, Philadelphia; L. P. Thomas, Philadelphia; N. D. Kutchukian, Pittsburgh; Clarence Lundquist, Pittsburgh; Frank A. Stevens, Pittsburgh; L. H. Pearce, Ridley Park; Wm. Thompson, Dallas, Texas; Homer B. Mathes, Pullman, Wash.; W. D. Becket, Seattle; Lester H. Landaal, Seattle; P. C. Underwood, Seattle; Florence E. George, Milwaukee, Wis.; Juan Acevedo, Mayagnez, P. R.

EVENING COURSES IN ARCHITECTURE

EVENING courses in architecture will be given by Washington University and the St. Louis Architectural Club, beginning October 5. The courses offered include: Architectural Drawing, History of Architecture, Descriptive Geometry, Shades and Shadows, Perspective Freehand Drawing, and Construction. A life class will be held on Monday evenings. The work is under the direction of Professor G. Ferrand of Washington University and F. Ray Leimkuehler, Chairman of the Atelier Committee of the St. Louis Architectural Club.

THE SPECIFICATION DESK

A Department for Specification Writers

MISCELLANEOUS ITEMS OF CONSTRUCTION, PART XII.

By Otto Gaertner

In this series of notes Mr. Otto Gaertner, A. I. A., Associate Member American Society of Civil Engineers, is treating of a number of the minor matters of construction that are troublesome unless the architect happens to have met a similar problem previously—matters of a more or less special nature.—Ed.

Garages (Continued)—In a sales station garage, where all cars are of the same size, the diameter of the ramp may be such as to accommodate the turning radius of that particular make of car, which may even be less than fifty feet. In a large building where two ramps are required, if they are made circular, one may be placed within the other.

The width of the ramp depends upon the size of the cars that use it, the sharpness of angles, and the particular combination of ramp curve and slope that has been used, since upon the combination depends the ease with which the car can be guided along the ramp. In general, the width should be at least eight or nine feet between curbs. While some cars can be accommodated in narrower spaces, it must be remembered that even on a straight road, cars are bound to weave in and out across the road.

The ramp should be provided with curbs from nine to twelve inches wide and ten inches high. It is well to make the outside curb wider to prevent the cars from getting close enough to the wall to damage the fenders; the inside curb being made only nine inches wide. The curbs should have the upper edges rounded off, and, if necessary, protected against wear.

The slope of the ramp depends upon the conditions involved in the construction of the building and upon the amount of space available. While a slighter incline is preferable, the incline is usually made about fifteen to twenty per cent. for space economy, if conditions permit. Outdoors one frequently travels over hills having such a grade, the average passenger car in good condition climbing them in second gear, while trucks take them more slowly. Downward travel on the ramps can be in first or second gear so as not to rely on the brakes to hold the cars in control. The brakes of any car should, however, be so capable and should be kept in such condition that they will easily hold the car on a twenty per cent. grade.

The ramp problem must be studied with great care from many different angles in each particular case. It must be solved so as to accommodate the amount of traffic and the kind of traffic required of it. It must economize on space so as to cause the least loss of car storage revenue and it must be arranged so as not to be dangerous to traffic or people employed in the building due to accident or collision. Often fewer ramps are needed for the upper stories than for the lower ones where the traffic is more congested.

To sum up, in comparison with the elevator system in the average building, the ramp accommodates more travel, thus saving time and lessening labor expenses; and eliminates delays due to the temporary absence of the elevator operator, the closing down of the elevator service for repairs, electric power bills, and the irritating wait for the elevator to become disengaged.

Sometimes where there is a large amount of travel in one direction and little in another, a combined ramp and elevator system may be used, the ramp taking the heavier traffic. In such a case, the elevator or elevators may be placed adjacent to the ramp if it is straight and within the curve of the ramp if it is curved.

If elevators are to be used, their number must be determined by a careful study of the conditions involved. It depends upon the kind of traffic to be served, the height and capacity of the building, and upon the capacity, speed, and type of elevator that is selected. Inquiries among garage owners as to the conditions and equipment in their buildings is the best guide. From one point of view, one elevator will usually take care of about one hundred to one hundred and thirty cars and the number of elevators should be increased in about the same proportion. It must be remembered that elevator service is used to its best advantage when it can carry one motor vehicle up and on its return trip carry one down.

This is all very well and can be done in the average commercial garage, but less so in a service station, and generally not at all in a truck storage garage because in the latter there is mostly one way traffic as has been previously mentioned. Where one way traffic must be contended with, the number of elevators depends upon the amount of traffic and, as has been mentioned in the comparison of elevators versus ramps, there is always the need of two elevators, one to be used when the other breaks down or is out of commission. This feature must not be overlooked in the commercial garage where contracts for storing cars usually state the amount of damage to be paid by the garage owner to the owner of the automobile when the car cannot be taken out of the building and used on account of lack of elevator service or other cause not the fault of the owner.

Elevators are perhaps best placed directly at the sidewalk, just inside the building, in which case they must necessarily have rear exits. They can also serve as entrances to the ground floor where they are standing at the ground floor level and have their gates open or raised as the case may be. If there is more than one elevator, they need not be grouped together, but may be spread out along the frontage of the building. The wall spaces over the elevator entrances need not be blank surfaces. They may have windows to match those on the remainder of the facade, but any such windows must be protected by bars or screens and plainly marked "shaft" on the outside. This must be done so as in case of fire to prevent the firemen from entering off a ladder from the outside and stepping into the shaft instead of on a solid floor.

This feature in the design brings to mind the question of treating the facade when staggered floors are used. One way would be to divide the elevation into a number of bays of window spaces separated by masonry piers. By designing these window spaces to have them count from top to bottom a solid portion can easily be introduced at each floor level. This means that the solid portions in certain adjoining bays will be staggered with each other, but by proper study the design may be developed so that certain transom or other bars will carry through horizontally with the lines of the solid portions in the adjoining bays.

However, to go back to the elevators, there are the questions of capacity, both as to load and size, and also the questions of speed and type. There is no fixed rule for any of these any more than there is for the number of elevators to be installed. Passenger elevators are usually figured at a live load of seventy-five pounds to the square foot but the freight elevators must be designed to carry the loads to be contended with in each specific building. For instance in one building the load may always be uniform and never more than twenty-five hundred pounds, because the business in that building, which may be an automobile manufacturing, distributing or sales business, is devoted only to a certain type of vehicle, say small pleasure cars.

(To Be Continued)

STANDARD SPECIFICATION

for the

Manufacture, Furnishing and Setting of Terra Cotta

Adopted by NATIONAL TERRA COTTA SOCIETY

19 West 44th Street, New York City

We desire to express our appreciation for the valuable assistance rendered by representatives of the Structural Service Committee of the American Institute of Architects, and of the National Bureau of Standards, Washington, D. C., in the preparation of this, the Standard Specification for Terra Cotta.

Note:—The Architect or Specification Writer will find it convenient to follow the Short Form Specification beginning with Section 63.

The Short Form incorporates all the provisions of the Standard Terra Cotta Specification, but eliminates the necessity of mentioning them in detail.

Reference to the Glossary, Sections 50-62, will supply the surface finish, ceramic finish, and color data necessary to specify surface and color correctly.

The Corollary Clauses, Sections 85, 86, explain the setting option between mason and manufacturer.

Sections 87-91 under Corollary Clauses explain the specifications for flashing, sheet metal, structural steel, structural concrete and rough carpentry. These specifications form a part of the Terra Cotta Specification, although the materials are supplied and set in place by different contracting parties.

A.—GENERAL INFORMATION

DRAWINGS AND SCHEDULES

1. The Terra Cotta manufacturer shall be furnished with all drawings, details and other information necessary for the manufacture of Terra Cotta, including drawings for all classes of work with which the Terra Cotta engages.

2. Wherever Terra Cotta is required to match in contour, color, finish and surface treatment, existing Terra Cotta, as for example in connection with alterations or additions to existing work, the Terra Cotta manufacturer shall be furnished with the required profiles and samples of the original work, and other needed information.

3. The Terra Cotta manufacturer shall before proceeding with manufacture, submit to the architect for his correction and approval, shop drawings showing jointing and construction of the Terra Cotta and provision made for all flashing and counter flashing. These drawings must conform as nearly as practicable to the architect's drawings, but shall be in accordance with good Terra Cotta structural practice.

4. All pieces of Terra Cotta shall be numbered. The Terra Cotta manufacturer shall provide two copies of the completed scale shop drawings to be used for setting and showing the piece numbering of the Terra Cotta, and the size of the joints to be used for setting the various portions of the work clearly indicated. These drawings shall be designated as the setting drawings.

5. The Terra Cotta manufacturer shall furnish, as promptly as possible, a schedule of all special anchors, hangers, etc., necessary to secure and support the Terra Cotta in a manner approved by the architect.

B.—MATERIAL

QUALITY. TESTS.

6. Note. In view of the researches now being conducted by the National Bureau of Standards at the instance of the National Terra Cotta Society, it seems inadvisable to attempt, at this time, to write either quality clauses in terms of crushing strengths, densities and elasticity, or specifications for tests. Clauses descriptive of the desirable physical characteristics and of tests to prove compliance of the material with such physical requirements will be prepared as soon as the necessary data are available and inserted in a later edition of this standard specification.

MODELING

7. All ornament shall be artistically modeled by the Terra Cotta manufacturer's staff artists. (Or, models made to Terra Cotta shrinkage scale will be furnished to Terra Cotta manufacturer, without cost to him, securely crated for shipment f. o. b. modellers' studio at).

8. Photographs in duplicate of all ornament shall be submitted to the architect for his approval or correction, or, if he so desires, he may inspect all modeling at the factory. Such approval or inspection by the architect shall be made promptly. No ornamental work shall be burned until modeling has been approved.

SURFACE FINISH, CERAMIC FINISH AND COLOR

9. The surface finish, ceramic finish and color of all exposed surfaces of Terra Cotta shall be as indicated by the architect's drawings or as specified. For surface and ceramic treatments, see Glossary of Terms relating to Terra Cotta, which is hereby made a part of this specification.

10. The ceramic finish shall be applied to the Terra Cotta in such a manner as thoroughly to coat the exposed surfaces.

SAMPLES

11. The Terra Cotta manufacturer shall submit samples of the color or colors of the ceramic finish to the architect for his approval, and all Terra Cotta shall conform without marked variation to the sample or samples so approved.

C.—DESIGN AND STRUCTURE

ENDS, WALLS AND PARTITIONS

12. Walls shall not be less than one inch thick and partitions shall be of such thickness and so spaced as to perform their proper functions with regard to form and structure. Each piece of Terra Cotta shall be provided with the necessary anchor holes and hand holes and shall be so formed as properly to engage the structure. Beds generally shall be not less than 4″ deep.

WASHES, WEEP HOLES AND DRIPS

13. Projecting courses, cornices and heavy ornamental detail may have washes, drips and weep holes, where shown on the approved shop drawings.

PREPARATION FOR FLASHINGS

14. Where so shown the washes of all projecting cornices and other exposed horizontal surfaces shall have provision made for flashing. All surfaces where the wash pitches inward toward the structure and stops against superimposed work; all balcony floors, and all gutter grades shall have provision made for flashing.

15. Raggles shall be provided to receive gutter linings and flashings when the joints cannot be used for the purpose. Raggles shall be not less than ¾″ deep.

15. All capping courses, copings and sills except of the "slip" type, shall have stools and lugs at intersections with vertical surfaces.

JOINTS

17. All joints shall be straight and true and of an approximate uniform width of ¼″. All Terra Cotta shall be laid out at the factory to test it for uniformity of joint widths and over-all dimensions. Where necessary to secure accurate dimensions and uniform joint widths, the material shall be sized straight and true.

D.—TRANSPORTATION, STORAGE AND PROTECTION

SHIPMENT, DELIVERY AND CARE

18. Unless otherwise specifically agreed, all Terra Cotta shall be furnished by the manufacturer f. o. b. cars factory,

with freight allowed to destination. All Terra Cotta shall be carefully packed in hay, straw, excelsior or other suitable material.

REPLACEMENTS

19. If any pieces of Terra Cotta are damaged in transit, the manufacturer shall be immediately notified in writing by the setting contractor and proceed with the remaking of the pieces. The responsibility for the cost of such replacements shall be determined by the point of delivery fixed by the contract under which the Terra Cotta is delivered. If the point of delivery is beyond the immediate control of the manufacturer, the setting contractor shall assume responsibility for the necessary proof of damage.

E.—ERECTION

HANDLING

20. The setting contractor shall receive the Terra Cotta on arrival at the freight yards and shall transfer it without damage from the cars to the building. When the Terra Cotta manufacturer delivers on trucks at the building the setting contractor shall unload and store the Terra Cotta. Terra Cotta shall be stored under cover, not in contact with the ground, stacked without inflammable packing on wood laths or strips, so as to protect it from injury.

MECHANICS

21. All Terra Cotta shall be set by mechanics experienced in the handling and setting of the material.

CUTTING AND FITTING AT THE BUILDING

22. Notice of errors in the manufacture of the Terra Cotta shall be given to the manufacturer immediately upon discovery. Cutting or fitting due to such errors shall be done by the Terra Cotta manufacturer or shall be paid for by him if he fails to do the necessary cutting or fitting promptly upon receipt of notice.

23. Other necessary cutting and fitting of the Terra Cotta that may be required at the building, including all fitting around anchors, steel and iron work and reinforced concrete, shall be done by the contractor for setting Terra Cotta.

SUPPORTING METAL WORK AND ANCHORS

24. *In Connection with Structural Steel.* Beams, channels, angles, T's, plates and fabricated members for supporting Terra Cotta and which are not secured to the structural steel by rivets or short bolts, as shown on the architect's drawings, together with all anchors, hangers, bolts, clips, straps, rods and pins for securing Terra Cotta, shall be furnished and set by the contractor for setting Terra Cotta.

25. *In Connection with Structural Concrete.* The contractor for structural concrete shall furnish and set all supporting metal work imbedded in the concrete and all shelf angles and continuous rods. All such metal work shall conform to the requirements of the setting drawings prepared by the Terra Cotta manufacturer.

26. All other loose iron such as clamps, hangers, clips, straps and pins shall be furnished and set by the Contractor for setting Terra Cotta.

27. All anchors, hangers, bolts, clips, straps, rods and pins for securing Terra Cotta shall be of wrought iron or non-corroding soft steel.

28. Anchors, hangers, bolts, clips, straps, rods and pins for securing the Terra Cotta, except where otherwise shown or specified, shall be of the following minimum sizes:

29. Anchors:—(a) For ashlar or courses balanced on the wall, shall be ¼″x ¼″ or ⅛″x ⅝″, or No. 6 gauge galvanized wire.

30. (b) For projecting courses not balanced on the wall, shall be not less than ⅝″ round or square bars of equal cross section.

31. Hangers shall be ⅝″ diameter round bars or other shapes of equal cross section area.

32. Clips and straps shall be ⅜″ x 2″.

33. Pins shall be ½″ diameter round bars.

34. Continuous rods on concrete wall faces to which Terra Cotta ashlar is clipped, shall be ⅝″ diameter round bars which shall be secured to the masonry with ½″ diameter round anchors placed not more than 2′ 0″ on centers.

35. All steel or iron supporting metal work shall be clean and thoroughly protected with two coats of pure red lead and linseed oil paint, asphaltum applied hot, or other approved protective compound.

PROTECTION OF SUPPORTING METAL WORK

36. Metal work of every description, supporting Terra Cotta, shall be imbedded thoroughly in the masonry backing and when not so imbedded, metal work shall be protected against corrosion by encasing with cement mortar or in cement mortar masonry.

37. When the back of a Terra Cotta course comes in contact with iron or structural concrete in such manner as to prevent the encasing of supporting iron from the rear, an opening shall be made in the top to admit of the placing of the encasing mortar as required above.

MORTAR

38. All cement used for setting mortar shall be of a standard brand of Portland cement fulfilling the requirements both physical and chemical of the standard specifications for Portland cement adopted by the American Society for Testing Materials.

39. All sand used for setting mortar shall be clean, sharp and well graded in size.

40. All mortar for setting and pointing shall be composed of one volume of Portland cement to three volumes of sand. Hydrated lime, not to exceed 9 pounds to the sack of cement, shall be added.

41. The sand and cement and lime, if any, shall be thoroughly mixed dry before any water is added. The use of retempered mortar shall not be permitted.

SETTING

42. All Terra Cotta shall be set true to a line and carefully laid in a solid bed of mortar. All rebates in bed and cross joints from front to back and top to bottom, shall be filled solid with mortar leaving no voids. Each piece of Terra Cotta shall be tamped into place, excess mortar cut off and struck with a jointer or trowel. All sills, wall copings and other capping courses, shall be set in a thick bed of mortar and well pounded down so that the mortar fills all spaces around bottom of webs of Terra Cotta.

43. All Terra Cotta projecting courses shall be so set that the arris casting a shadow shall be true to line.

44. When the Terra Cotta work is of such scope or character that the proper handling and setting of the Terra Cotta require special skill and knowledge, the Terra Cotta manufacturer shall, if required by the contract, furnish a competent Terra Cotta setter to assist in the sorting, selecting and handling of the Terra Cotta, to co-operate with the setting contractor, to assist him when cutting or fitting of the Terra Cotta is necessary, to advise as to interpretation of setting drawings and to help generally in securing rapid, efficient progress during the setting of the Terra Cotta. For such service the setting contractor shall pay such setter full time at his regular wage rate. When the furnishing of such a competent setter involves traveling expenses, the setting contractor shall pay the same and also make an allowance for his board.

45. When the services of such a competent setter are not required under the contract, the Terra Cotta manufacturer may, at his own option and expense, send such a representative to the work who shall perform the above services, and the setting contractor shall co-operate with and aid and facilitate the performance of such services by such representative.

POINTING

46. All joints in Terra Cotta shall be pointed and struck as the setting progresses except in freezing weather. In freezing weather and when repointing is necessary, all joints shall be raked or cut out to a depth of ½″ and the pointing mortar driven into the joint and struck with a jointing tool.

47. All joints in overhanging Terra Cotta, balustrades, parapets and free standing features shall have joints raked out one-half (½) inch, and pointed with an approved elastic cement.

PROTECTION

48. All uncompleted walls including Terra Cotta and backing shall be protected by waterproof covering at night and at any time when liable to injury from storms or freezing. (Note:—All other protection required for projecting courses, jambs of openings, etc., is provided for under the work of other trades.)

CLEANING DOWN

49. Upon completion of the work, mason's wedges, shoring, supports and centering and all other false work and protections shall be removed and the Terra Cotta cleaned down. If satisfactory results cannot be obtained by the use of abrasive soap or washing powder, a solution consisting of 1½ pints of muriatic acid to a gallon of water may be used. In the use of acid solutions only wooden pails and fibre brushes shall be employed.

GLOSSARY OF TERMS RELATING TO TERRA COTTA

SURFACE FINISH

50. Surface Finish designates the texture of the surface of the clay body prior to application of Ceramic Finish.

51. It may be:

(a) *Smooth.*

(b) *Tooled or Drove.*

(b1) Eight lines to the inch.

(b2) Six lines to the inch.

(c) *Light irregular drag or combing.*

(d) *Heavy irregular drag or combing.*

(e) *Special.*

52. A special Surface Finish like "bush-hammered," "pitted," "vermiculated," etc., involves extra expense and, if required, should be clearly specified.

53. *Surface Finish for unglazed surfaces* may be smooth or may be tooled with a light or heavy drag. Flat surfaces of sufficient width may be tooled, while the curved surfaces of mouldings may be left smooth.

Surface Finish for glazed Ceramic Finish (whether lustrous or mat) is usually made smooth.

54. *Granite Colors,* if unglazed, may be made smooth or with irregular drag, or pitted. A bush-hammered or special surface involves extra expense, and if required should be clearly specified. If glazed Ceramic Finish is used for Granite Colors the surface treatment is usually smooth.

CERAMIC FINISH AND COLOR

55. Ceramic Finish designates the surface and color applied by the ceramic processes of coating, glazing, burning, etc.

56. (1) *Unglazed Terra Cotta:* Terra Cotta with a Ceramic Finish producing an unglazed finish made in various shades of buff, gray, salmon, red and brown. Most colors thus made are vitreous.

57. (2) *Glazed or Enameled Terra Cotta:* Terra Cotta having an impervious Ceramic Finish of a glassy texture which may be either lustrous or mat (sometimes designated as full or dull glazes or enamels) made in various colors.

58. (3) *Granite Color Terra Cotta.*

(a) Unglazed Granite Color:—A mottled Ceramic Finish similar to unpolished granite.

(b) Glazed or Enameled Granite Color:—A mottled Ceramic Finish similar to polished granite, made either lustrous or mat.

59. (4) *Polychrome Terra Cotta or Faience:* Terra Cotta having two or more colors on the same piece.

(a) Polychrome, unglazed:—Unglazed Terra Cotta having two or more colors on the same piece.

(b) Polychrome, glazed:—Glazed Terra Cotta having two or more colors on the same piece.

(c) Polychrome, blended colors:—Made only in glazed Terra Cotta. If, in polychrome glazed work, the colors are not to be separated by definite lines or contours of ornaments, but are to be blended together by brush treatment, or the like, the term "Polychrome, blended colors" shall be used. The character of work expected should be explicitly described.

(Note. For polychrome work always clearly specify the work to be done and the number of colors on a single piece.)

60. (5) *Special:* There are a number of Ceramic Finishes used by individual manufacturers the processes for which are patented or the names copyrighted which are not included in this Glossary.

61. (6) *Semi-Glaze:* An ambiguous term which should never be used.

62. (7) *Fire-Gilding:* A coating of gold glaze either mat or lustrous, fixed by an additional burning. (The area of surface to be gilded should be clearly described.)

SHORT FORM SPECIFICATION

FOR

THE MANUFACTURE, FURNISHING AND SETTING OF TERRA COTTA

For Incorporation in the Architect's Specifications.

To be used in connection with Standard Specifications and the Standard General Conditions of the American Institute of Architects.

63.—*(Note to architect:—The Standard Specification does not state who shall set the Terra Cotta, who shall provide wood centering, scaffolding, hoists, cover boards and protection (except tops of walls against weather). It does not include any cement or concrete work in connection with forming gutter grades and washes on projecting courses and features, or the furnishing or setting of sheet metal flashings and gutter linings. It does not include the furnishing and erection of metal supporting members which are riveted or bolted with short bolts to the structural steel or structural concrete. It requires the architect to show on his drawings the sizes and arrangement of rolled or fabricated structural shapes used for supporting Terra Cotta. (See notes on corollary clauses at end of this specification for the work of other trades to take care of such omissions).*

GENERAL CONDITIONS

64. The General conditions of the American Institute of Architects, Third Edition, shall form a part of this specification and contract and all work shall be subject to the provisions thereof.

WORK INCLUDED

65. The work included in the contract comprises the manufacture, (and) delivery (and setting) of all Terra Cotta in accordance with the contract drawings and these specifications.

66. All (here insert a complete description of work) shall be of Terra Cotta.

WORK NOT INCLUDED

67. The following items are not included as a part of the contract for furnishing (and setting) Terra Cotta.

(a) Masonry backing. See specifications for (.....)

(b) The furnishing and erection of metal supporting members which are riveted or bolted with short bolts to the structural steel. See specifications for (.....)

(c) Cement or concrete grading for gutters, washes, floors, etc. See specifications for (.....)

(d) Furnishing and setting sheet metal, see specifications for (.....)

MATERIALS AND WORKMANSHIP

68. All Terra Cotta work under this contract, except as hereinafter specified, shall be executed in strict conformity with the Standard Specification for the Manufacture, Furnishing and Setting of Terra Cotta, adopted by the National Terra Cotta Society; which Standard Specification is hereby declared and made a part of this

specification with the same force and effect as if written herein in full.

SURFACE FINISH, CERAMIC FINISH AND COLOR

69. All Terra Cotta (Note:—If several textures or finishes are to be used give location of each) shall be

70. (1) *Unglazed.*
Surface Finish of flat members shall be
(a) *Smooth.*
(b) *Tooled or Drove.*
(b1) Eight lines to the inch.
(b2) Six lines to the inch.
(c) *Light irregular drag or combing.*
(d) *Heavy irregular drag or combing.*
(e) *Special.* (Note:—Special surface finishes like "bush-hammered," "pitted," "vermiculated," etc., should be described.)

71. The surface finishes of mouldings and curved surfaces generally shall be

(Note:—Unless otherwise specified these surfaces are generally made smooth.)

72. (2) *Unglazed Granite Colors.* Surface finishes of flat members generally shall be (a, b, c, d, e). The surface finish of mouldings and curved surfaces generally shall be

(Note:—Unless otherwise specified these surfaces are generally made smooth.)

73. (3) *Lustrous or Full Glazed or Enameled.* Surface finish shall be

(Note:—Unless otherwise specified these surfaces are generally made smooth.)

74. (4) *Mat or Dull Glazed or Enameled.* Surface finish shall be (See Note 3).

75. (5) *Lustrous or Full Glazed or Enameled Granite.* Surface finish shall be (See Note 3).

76. (6) *Mat or Dull Glazed Enameled Granite.* Surface finish shall be (See Note 3).

77. The color of the Terra Cotta generally shall be (.....) as per approved sample or samples.

78. (7) The Terra Cotta comprising..... (described here in detail.....) shall be (two, three, four) color polychrome. Colors (....specify where....) shall be blended.

79. (8) The surface finishes of (....specify where ....) shall be fire gilded with (mat or lustrous) gold glaze.

(Note:—Sections 1, 2, 3, 4, 5, 6, are alternates. If there is no polychrome work or no fire gilding omit sections 7 and 8. Sections a, b, c, d, e, are alternates for surface finish).

DELIVERY

80. The Terra Cotta manufacturer shall furnish and deliver (f. o. b. cars factory with freight allowed to destination (on trucks at the site of the building) (and set) all the Terra Cotta as indicated on the drawings or as here described.

SETTING

81. All Terra Cotta shall be set by the (Terra Cotta manufacturer) (mason....). For such anchors and metal work as are to be furnished by the setting contractors see Standard Specification.

(Note to architect:—If the Terra Cotta manufacturer is to set his material include the following clause in the Terra Cotta specificaton. See also suggtsted clauses at end of this specification to take care of these omissions and for incorporation in the specifications for the work of other trades).

82. "Hoisting service, storage space, setting mortar, delivered on the scaffold, outside and inside scaffold runways and platforms, water, temporary light and removal of refuse, shall be furnished to the Terra Cotta manufacturer free of charge by the (...mason contractor...)."

TERRA COTTA SETTER

(Note to architect:—If the work is of such scope or character that the proper handling and setting requires special skill, the following clause may be inserted: "The Terra Cotta manufacturer shall furnish at the expense of the setting contractor a competent Terra Cotta setter to assist in the sorting, selecting, handling and setting of the Terra Cotta.")

JOINTS

83. (The Standard Specification does not require any joints to be rubbed. If rubbed joints are to be required it should be so stated here.)

84. The Standard Specification requires all joints to be approximately ¼" wide. If joints of a different width are desired it should be so stated here.)

SUGGESTIONS FOR COROLLARY CLAUSES

85. 1.—If the Terra Cotta is to be set by the Terra Cotta manufacturer, a clause similar in purport to the following should be included in the general requirements relating to masonry or brick work:

86. "Terra Cotta will be furnished and set by the Terra Cotta manufacturer. Hoisting service, storage space, setting mortar delivered on the scaffold, outside and inside scaffolds, runways and platforms, water, temporary light and removal of refuse shall be furnished to the Terra Cotta manufacturer, free of charge, by the (mason contractor)." A provision should also be included to the effect that the (mason contractor) shall construct the brick (concrete) backing for the Terra Cotta and "The backing shall proceed simultaneously with the setting of Terra Cotta. Each piece of Terra Cotta shall be backed up solid with brick and mortar, so as to make a perfect bond and homogeneous mass between wall lines. This backing shall extend beyond the wall line when necessary to structural stability. If concrete is used it shall not be stronger than a 1 to 9 mixture."

Also a provision under which the (mason) contractor shall place all concrete or cement grading for gutters, washes and balcony, loggia or other floors.

87. In the case of parapet walls specifications should state that flashing if used shall be carried through the wall, or if flashing be not used the back of the parapet wall shall be dampproofed and the waterproofing carried through the wall.

88. 2.—In the specification for sheet metal work there should be included a clause similar in purport to the following:

"The washes on all cornices and other exposed surfaces, where shown or specified, shall be covered with (.....) which shall be turned up against vertical surfaces (cap flashed) and cemented into the raggles provided for the purpose in the Terra Cotta."

89. 3.—Structural Supports.

Under "Structural Steel," a clause similar in purport to the following should be included:

"Beams, channels, angles, T's, plates and fabricated members for supporting Terra Cotta, and which are secured to the structural steel with short bolts or rivets, shall be furnished and erected by the contractor for (structural steel.)"

90. Under "Structural Concrete" a clause similar in purport to the following should be included:

"Steel beams, channels, angles, T's, plates, fabricated brackets and outlookers and other members, bolts, rods, wires, anchors, and sleeves for supporting Terra Cotta, which are imbedded in the structural concrete, also shelf angles and continuous rods attached to structural concrete shall be furnished and set by the contractor for structural concrete, in strict accordance with setting drawings prepared by the Terra Cotta Manufacturer." (For information as to the sizes and character of bolts, rods, anchors, etc., see Section E paragraphs 24 to 35 inclusive on "Supporting Metal Work and Anchors" of Standard Specification for the Manufacture, Furnishing and Setting of Terra Cotta. Such supports should be clearly shown on the drawings.)

91. 4.—Under "Rough Carpentry" or other suitable division of work, there should be included a clause providing that the contractor shall furnish, set and maintain all centering, cover boards, boxing and protection for Terra Cotta, and remove the same upon completion of the work.

Additional copies of this specification will be sent free on request to any reader of PENCIL POINTS. Address National Terra Cotta Society, 19 West 44th St., New York.

(*Advertisement*)

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER.

Any publication mentioned under this heading will be sent free, unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing the publication. When writing for any of these items please mention* PENCIL POINTS.

Brass Pipe and Piping.—Illustrated treatise covering the production of brass pipe, corrosion of various pipe metals, plumbing layouts and other useful data for the architect, draftsman and specification writer. 48 pp. 8 x 10½. Bridgeport Brass Co., Bridgeport, Conn.

Architectural Terra Cotta—Standard Construction.—A collection of 70 full page plates showing best types of construction in connection with the use of Architectural Terra Cotta. Fully indexed. Size of page 10½ x 14; size of plates 8½ x 11. Bound in [illegible] cloth. National Terra Cotta Society, 19 West 44th St., New York City.

Present Day Schools.—Illustrated brochure covering the application of terra cotta to modern school buildings. 32 pp. 8½ x 11. National Terra Cotta Society, 19 West 44th St., New York City.

Better Banks.—Illustrated brochure treating of modern bank buildings, large and small. 32 pp. 8½ x 11. National Terra Cotta Society, 19 West 44th St., New York City.

Color in Architecture.—Brochure illustrated in color and with numerous engravings in sepia, on the basic principles of the application of color in available mediums. 8½ x 11. 38 pp. National Terra Cotta Society, 19 West 44th St., New York City.

Southern Pine Manual of Standard Wood Construction.—Useful book containing hundreds of tables and other useful data covering all types of wood construction. Handsome leather binding. 186 pp. 4½ x 7. Price $1.50 per copy. Southern Pine Assn., New Orleans, La.

Service Sheets and Blue Prints.—The Alpha Portland Cement Co. of Easton, Pa., has prepared a series of service sheets and blue prints showing many types of concrete construction. Valuable to all architects, draftsmen and specification writers.

Stand Pipe Detail and Specification—A.I.A. File No. 29 E 2.—Complete specification data for fire lines, etc. Blue prints. 8½ x 11. W. D. Allen Mfg. Co., 566 West Lake St., Chicago, Ill.

Nineteen Stories of Lime.—New booklet on the subject of Hydrated White Lime for use in concrete work. Profusely illustrated. 36 pp. 6 x 9. National Lime Assn., 77 W. Washington St., Chicago, Ill.

Data Book and Standard Specifications.—Electric or engine driven pumps and complete water supply systems. Portfolio containing complete data on the subject. 28 pp. Standard Filing size. Duro Pump & Mfg. Co., Dayton, Ohio.

Glue Problems and How to Meet Them.—Hand book on the subject for all interested in fine cabinet work, furniture trim, etc. 20 pp. 4 x 9. Monite Waterproof Glue Co., 1628 No. 2nd St., Minneapolis, Minn.

Ramps.—Brochure dealing with new type of construction for garages, service buildings and factories. 24 pp. A.I.A. classification. 8½ x 11. Ramp Building Corp., 50 Church St., New York City.

Guide to Good Stucco.—Brochure illustrated in color with detail drawings, suggestions for specifications and much other useful information. 30 pp. 8½ x 11. Atlas Portland Cement Co., 25 Broadway, New York City.

Modern Floors—Illustrated booklet on subject of flooring for hospitals, schools, banks, institutions and many other types of buildings. 24 pp. 7¾ x 10¾. Marine Decking & Flooring Co., Philadelphia, Pa.

Acoustile.—Illustrated booklet on the subject of acoustics. Color plates covering treatment of auditorium and other interiors. 16 pp. 8½ x 11. The Mazer Acoustile Co., 1209 Arch St., Philadelphia, Pa.

Steel Partitions.—Blue prints showing construction of adjustable hollow steel partitions. Useful in many types of buildings. Empire Steel Partition Co., Inc., College Point, N. Y.

Wall and Ceiling Handbook.—Data on wall and ceiling construction for the residence. 16 pp. 5½ x 7¼. The Bostwick Steel Lath Co., Niles, Ohio.

Garden Pottery.—Catalog illustrated in sepia covering many articles in terra cotta for the garden and interior. 24 pp. 9¼ x 12. The Galloway Terra Cotta Co., Walnut and 32nd Street, Philadelphia, Pa.

Instruction Sheet.—Details of standing seam horse head zinc roofing. New Jersey Zinc Co., 160 Front St., New York City.

Lithoprints.—Portfolio describing methods of making lithoprints, their uses and advantages. Loose-leaf binder. 8¾ x 11¼. The Lithoprint Co., of New York, 41 Nassau St., New York City.

Water Filters.—Bulletin No. 501 describing Graver horizontal pressure water filters. 8¼ x 11. 12 pp. The Graver Corp., East Chicago, Ind.

Vermont Marble Details.—Series of 18 plates showing exterior and interior construction. Vermont Marble Co., Proctor, Vt.

An Electrical Wiring Specification.—Specification covering electrical wiring devices of all kinds. How to lay out a completely wired home. 12 pp. 8½ x 11. The Bryant Electric Co., Bridgeport, Conn.

Hospital Plumbing.—New catalog on the subject covering complete line of plumbing equipment for the hospital. Trenton Potteries, Trenton, N. J.

Sound Deadening.—Booklet covering subject of sound deadening and heat insulation in diagram, picture and text. Correct methods of construction for many varied uses. Standard A.I.A. filing size. 7½ x 10½. 28 pp. Samuel Cabot, Inc., 141 Milk St., Boston 9, Mass.

Rail Steel for Concrete Reinforcing.—Treatise on subject of reinforcing bars. Dept. E., Laclede Steel Co., St. Louis, Mo.

Modern Window Operating Information.—Illustrated catalog on Pullman sash balances. Pullman Mfg. Co., 237 South Ave., Rochester, N. Y.

Telescopic Hoists.—New catalog in two colors. Illustrated with photographs of installations for handling ash cans and other loads between floors. Specifications. 24 pp. 8½ x 11. Gillis & Geoghegan, 548 W. Broadway, New York City.

Portfolio of Granite Studies—Series of plates showing structural details. National Building Granite Quarries Assn., 31 State St., Boston, Mass.

Up-to-date Electrical Specialties.—Catalog No. 6. Convenient pocket size data book on complete line of specialties. 283 pp. 3 x 4½. Connecticut Electrical Mfg. Co., Bridgeport, Conn.

A Watertight Sidewalk Door.—Leaflet giving full report of committee of competent investigators. Construction details, specifications and prices. The H. W. Covert Co., 137 East 46th St., New York City.

Marble Portfolio.—Loose-leaf portfolio showing 40 different varieties of marble in their natural colors. Color plates 6 x 8. A copy of this portfolio handsomely bound in leather will be sent only to architects applying for it on their own letterhead. Tompkins-Kiel Marble Co., 505 Fifth Ave., New York City.

Improved Mechanisms in Builders' Hardware.—Complete catalog showing detail drawings, and instructions for installing mechanical builders' hardware such as casement hinges, casement operators, hinges and pivots, and overhead door checks. Catalog is 6 x 9. 58 pp. The Oscar C. Rixson Co., 1210 Architects Bldg., New York City.

Sylphon Heating Specialties.—Technical handbook containing valuable tables, specification data, etc., for all types of steam and hot water heating. 3½ x 6½. 144 pp. The Fulton Co., Knoxville, Tenn.

Swimming Pool Sanitation.—Special bulletin covering this subject with diagrams and illustrations of typical pools. 8 pp. 8½ x 11. The R. U. V. Co., 383 Madison Ave., New York City.

Lighting Bulletin.—Booklet illustrated in color showing types of units for various uses. Tables, prices, chart for calculating illumination required. 8 x 10½. 30 pp. Edwin F. Guth Co., St. Louis, Mo.

Artists Papers.—Attractive book describing full line of hand made papers for all uses. 24 pp. 6 x 9. Canson & Montgolfier, 461 Eighth Avenue, New York City.

Pencil Sketching.—Portfolio of 12 full page pencil sketches by Bernhardt Mueller and others. 9 x 12. Eberhard Faber, 37 Greenpoint Avenue, Brooklyn, N. Y.

The Hoffman Drawing Stand.—Booklet describing drawing stands and products for various requirements in the drafting room. Hoffman Drawing Co., 281 Meigs Street, Rochester, N. Y.

The Royal Ventilator Co.—Data book with specification material covering subject of ventilation. 48 pp. 4½ x 9. Royal Ventilator Co., 415 Locust Street, Philadelphia, Pa.

Roofligh Construction.—Blue prints showing full size details of Keppler Glass Construction. Frederick L. Keppler, 1799 First Avenue, New York City.

THE NEED FOR SAFETY IN WALKWAYS

By H. Weaver Mowery

Past President, American Society of Safety Engineers

HOW, in so complicated a business as building, shall a proper balance of essentials be kept, with enthusiastic specialists each vigorously pursuing their particular activity and each careless of the other?

For instance, firesafe construction, though of vital importance, occupies a pre-eminent position in the minds of all associated with the building design. This condition has been brought about through unremitting publicity and agitation by manufacturers of fireproof materials of all sorts, the formation of national associations of fire prevention, the publication of magazines, and kindred activities. But in obtaining this desirable result, is it not possible that other matters of perhaps equal importance, lacking the organization and the publicity, came to be more and more neglected until finally almost entirely overlooked?

The problem of providing safe walking surfaces seems to have been eclipsed in this fashion We have come to take it as a mater of course when a person falls down stairs and is severely injured or killed. A short time ago, in Chicago, a leading building contractor fell down stairs and died within a few hours. Exactly five and one-half lines was the amount of space given in the newspapers announcing this fatality. But when an individual is cremated in a burning building, a special representative of the press is assigned to the story, and we get two or three columns with glaring headlines. Yet there are more than twelve times as many people killed by falls as there are in burning buildings. For instance, in Chicago, in 1915, there were eight people killed in burning buildings, while 154 were killed by falls on floors, stairs, and sidewalks, other than through slipping on ice and banana-peels. From 1911 to 1922 in this city 4,206 persons were killed by falls, 1.804 of which occurred on stairs, floor and street. In New York (Manhattan) 1,488 deaths through falls on stairs and sidewalks have been reported to the Chief Medical Examiner's office from 1912 to 1920 inclusive. Statistics from the Labor Department of the four states, Massachusetts, New York, Pennsylvania and Ohio, show that slipping and tripping injured as many workmen as were injured by cranes, gears, belts and pulleys, planers and jointers, ladders and elevators, all combined. In the state of Ohio, slipping and tripping casualties in the industrial plants cost approximately $153,000 for compensation, hospital and medical expenses alone. Such figures show beyond a doubt that something is wrong with the surfaces upon which people must work and walk, or with people themselves.

A casual tour of inspection reveals amazingly unsafe conditions in tread surfaces. Architects and engineers are not responsible for all of these unsafe conditions. Certain floors, if properly cleaned, are not unsafe, but if the janitor or superintendent of a building will persist in using soap powder instead of the proper sort of floor cleanser, their surface is dangerously slippery and, of course, the designer of the building is not responsible for such a condition. But there are many conditions coming directly under the supervision of the architect and engineer which can be corrected by those charged with the supervision of the designing and the specification of the materials.

An analysis of the casualty reports from sixty-five companies in twenty-two states for a period of seven years by the Accident Prevention Committee of the National Electric Light Association, published in their annual proceedings, shows that slipping, tripping and falling were by far the greatest cause of accidents resulting in lost time of one day or more. It should be noted by the designers of buildings that the charts prepared by this Committee indicate that the majority of falls are not from high places such as scaffolds, temporary supports, poles, etc., as is usually thought, but 38.6% of all falls occur on stairs and floor levels.

Whether stair accidents are caused through the carelessness of the individual, or because of improper tread and riser dimensions, or through unsafe tread surfaces is a question often raised. The experience of one of our great eastern railroads is very interesting. It conducted the only authenticated service test of which there is definite knowledge, to show the merit or demerit of a type of tread from a safety viewpoint. On a newly constructed stairs, equipped with one type of tread, 141 accidents were reported in less than two months. The type of tread then was changed and not a single fall was reported in the three months following. There was no change in tread or riser dimensions, no additional handrails were put in, lighting conditions were the same as before the accidents ceased, and it is to be assumed that the people were just as careless and were in just as great a hurry. But the change in the type of the tread alone was responsible for the elimination of falls in this case.

It is essential that the tread and riser dimensions are properly proportioned and that the nature of the material of which the stair treads are composed should be such that slipping on them will be prevented and wear reduced to a minimum.

THE UNIVERSITY OF MICHIGAN

THE College of Architecture of the University of Michigan is pleased to be able to announce that Mr. Eliel Saarinen of Helsingfors, Finland, will be Visiting Professor in Architectural Design during 1923-24. He will criticise in advanced and graduate designing.

Mr. Saarinen, one of the leading architects of Europe, recently became better known in this country through his remarkable design submitted in the Chicago Tribune Building competition. To students of European architecture he has, however, long been known as an architect of unusual ability. In the international competition held in 1906 for the Peace Palace at the Hague his design was one of the noteworthy ones and is published in the volume devoted to this competition. It is interesting to note that his more recent work is marked by the same spirit. He has not only designed important buildings in his own country, but like so many European architects has been active in the field of city planning.

The *Western Architect* for July has a number of illustrations of Mr. Saarinen's work and an appreciation by Mr. I. K. Pond, a former president of the American Institute of Architects. Mr. Louis H. Sullivan's discussion of the Tribune competition in the *Architectural Record* for February is a noeworthy comment on Mr. Saarinen's ability.

COSTUME DESIGN AND ILLUSTRATION

UNDER the title "Costume Design and Illustration" ($3.50 net), John Wiley & Sons, Inc., New York, have just published a useful book by Ethel H. Traphagen, instructor and lecturer at Cooper Union, The New York Evening School of Industrial Art and Brooklyn Teachers' Association Classes. This book will be found helpful for reference in preparing costumes for entertainments by architectural clubs and the excellent bibliography it contains makes it a guide to a most valuable mass of reference material on historic costume design. It will also be found useful in cases where period costumes are required in mural decorations or other designs associated with architectural work.

An attractive postal card announcement sent out by The T-Square Club, Philadelphia, is reproduced above.

THE DRAFTSMAN'S PROBLEM

FROM one of our readers we have received a letter from which we quote as follows:

"In reading the letters which you have recently published concerning the relation of the draftsman to the checker and incidentally to the employer, it has seemed to me that a discussion of this kind has some danger of degenerating into a sort of free-for-all of abuse and recrimination on both sides. Enough of this sort of thing goes on daily, hourly, in the drafting room, and it may be as well to avoid it in the architectural publications.

However, there is no doubt that the situation of draftsmen and designers is very far from ideal, and I do not believe that there exists elsewhere a class of men who work under more discouraging conditions. Consider that a man in this line of work has in nine cases out of ten made his investment in a college training, years of study and practice and probably foreign travel. His ability and his qualifications place him among the highest type of skilled workers. The conditions of his employment are less permanent and secure than that of the coal miner, the seaman or the agricultural worker all of whom are classed as unskilled labor. His income is small—the draftsman of the best type is not often able to command a salary of three hundred dollars a month.

He has usually the highest refinement of taste—he must have, to be able to design—and his general culture is broad and liberal, and yet he is unable to live among or to possess the things that he has been trained to create for others.

I do not wish to belittle the sincere endeavors of many employers to better the position of the drafsman, but in the majority of cases the employe's feeling of close association with his office is so lacking that he cannot and does not produce the quality of work of which he is capable.

In almost any other occupation, high grade men have an agreement, most often a hard and fast contract, with their employers, ensuring them of the duration of their engagement.

Consider sales engineers, promoters, research experts and foreign trade representatives—no high grade man in these lines would consider giving his services on the same basis as that of the journeyman carpenter or the unskilled workman, and yet that is exactly what the draftsman does.

On one week's notice his salary may be reduced; on two weeks' notice he may be discharged. There is here, certainly, no incentive to loyalty, no inspiration, no possibility of the spirit of craftsmanship and love of fine work that is the very life of architecture.

It seems to me that the fad for "efficiency" has wrecked many organizations. I have in mind one office where a younger member of the firm was stricken with this disease and established as thorough a system of costs, of time distribution, or work-per-man-per-hour, of espionage and petty discipline that the esprit which had been the greatest asset of this office was destroyed, and their work has shown it ever since. I can think of no vocation where the methods of Henry Ford are less applicable than in the practice of architecture, or where the spirit of "Production" is less to be desired. To an organization of capable and loyal men "efficiency" systems are an insult and a curse.

How desirable it would be to keep architecture a bit different from manufacturing and business, although it be intimately related to both of them. Profit is necessary, practical exce'lence is indispensable, but let us not push these ends to the extreme of discouraging the true purpose of architecture, which is to create beauty and harmony as things *inseperable* from true utility and human progress.

DRAWING CONSTRUCTION DETAILS

(*Continued from page 26*)

for the subordinate divisions within this area. The choice of the right weight of lines for the scale of the drawing, clean, workmanlike draftsmanship and a good arrangement of the details on the sheet are essential if the drawing is to have a satisfactory appearance. It is well to study the arrangement of details by making a rough sketch of the sheet before beginning the drawing. Attention should be given to neatness of the lettering of titles and notes, and one should see that the scale is always clearly indicated.

BOOK OF THE TRIBUNE COMPETITION

THE desire manifested by architects everywhere to see the designs entered in the hundred thousand dollar prize competition for the new building of the Chicago Tribune has been met by the publication of "The Book of the Chicago Tribune Tower Competition" by the Chicago Tribune. This book consists of 680 pages, is 8¼ x 12¾ inches, and well bound. It is sold at the moderate price of five dollars. It contains besides the program, biographies of prize winners, etc., twenty-five views of the three prize winning designs and the southwest perspective drawing of the others. It contains the 260 designs received from architects of twenty-three countries.

Reed Memorial Chapel, Mountain Grove Cemetery, Bridgeport, Conn.
Donn Barber, Architect. Drawing by John D. Moore.

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Post Office Square: The Angell Monument; The Post Office; The National Shawmut Bank. Pencil Sketch by J. Albert Seaford.

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